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THE WOOSTER ARITHMETIC GRADE I

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THE

WOOSTER ARITHMETIC

FOR

GRADE I

By LIZZIE E. WOOSTER

CRANE & COMPANY, PUBLISHERS
TOPEKA, KANSAS
1900

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FOR THE TEACHER.

THIS book is for pupils in the first grade or first school year. It is based upon actual school-room work.

The lessons are carefully graded to suit the needs and capabilities of pupils in first-year work. The plan of work may be successfully used by the inexperienced as well as the experienced teacher.

The book is divided into four sections and the lessons numbered, and each may be used as a lesson or not, as the needs of the class demand.

The work advances by easy steps, that the pupils may thoroughly understand it, and be able to do the work at their seats without much direct help from the teacher.

The number and variety of exercises given are so numerous that they will save the teacher from writing out much drill work on the blackboard. Blackboard lessons are very objectionable, on account of the injury done to pupils' eyes. More books should be used in the lower grades, and less blackboard work, and then we would find a much less per cent. of the children wearing glasses in the school-room.

So much blackboard work is also a waste of time and strength for the teachers; and often they have not sufficient blackboard room to give the necessary amount of work for the class.

All number work taught to children can be illustrated with objects, and all the work given should be presented in an interesting form, and should be shown to be practical and that it has to do with the *real affairs* of *life*.

Teachers preparing and planning their work must always keep in mind the results wished for and the future work, and let each step lead to the next, gradually building on the little foundation already started.

Teach *how to study*, bearing in mind that the reasoning powers develop slowly. Before taking up +, −, ×, and ÷, the value of the figures should be well understood by the children.

If the children thoroughly learn the combinations in addition, sub-

464020

traction will be easily taken up, as they will readily see that it is only the same combinations used differently. Multiplication they will recognize as only a shorter method of addition, and division as only the combinations of addition, subtraction and multiplication used differently.

Objects are necessary in developing numbers, the combinations and relations. The most convenient objects are wooden toothpicks, colored sticks, lentils or corn, and colored beads fastened on eight-inch steel or wire rods. There should be nine beads on each rod.

It is best to supply each child with material for individual use at his seat, and then he should be directed *how* and *when* to use it in the preparation and recitation of certain lessons.

It is well to teach the children to count and write to 100 before the readers are taken up, and it is *drill, drill* with the little beginners, to secure their rapid recognition of the numbers in reading and writing when you leave the order and begin to skip about; as, 17, 96, 56, 18, 83, etc.

It is a help for the teacher and children if the numbers from 0 to 100 are placed on the blackboard in bright yellow crayon, in the manner as given on page 9. Let these remain on the blackboard until all the class can count, write and read to 100, and recognize the numbers rapidly when pointed to, forward and backward, or by skipping about as indicated above.

Call the children's attention to the fact that all the numbers in the teens begin with 1, and all in the twenties with 2, etc. When given *26* to write, they will know that it begins with 2, and will not write it *62*. The table on page 9 will also serve for seat work, with slates and number boxes. The children can select and place the figures in their order from number boxes. Pages 6, 10 and 14 are for rapid recognition of combinations and for busy-work at the seats.

Cards, tablets and the blackboard should be used in oral work, to gain the rapid recognition of the combinations.

Much oral work, such as is on pages 37, 52, and 105, should be given during the recitation periods by both teacher and pupils.

Lizzie E. Wooster.

SECTION I.

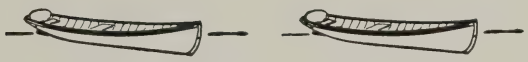
Combinations in Addition from 1 to 11.

LESSON I.

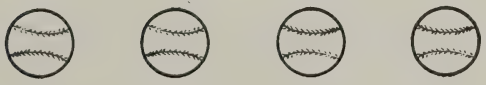
I see

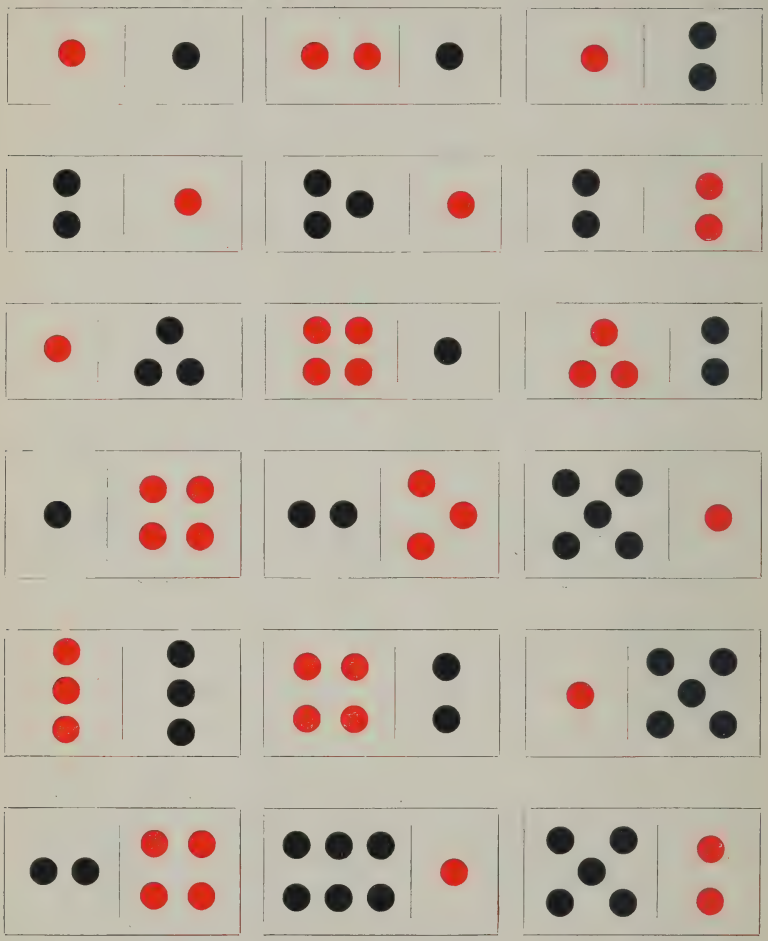
I see

I see

I see 

I see

I see 



For drill in combination and color work.

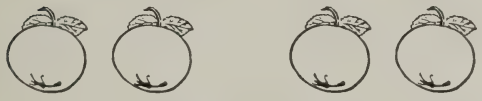
The children should read them orally—as, one and one are two—for class work. For seat and slate work, they should place the figures instead of dots.

0

1

2

3

4 

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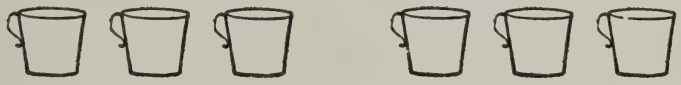
6 

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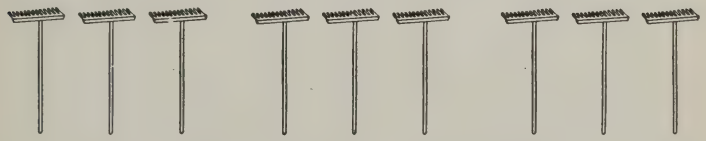
9 

To teach the names and values of the nine figures.
The 0 should be called *naught*.

and are ——

and are ——

and are ——

and are ——

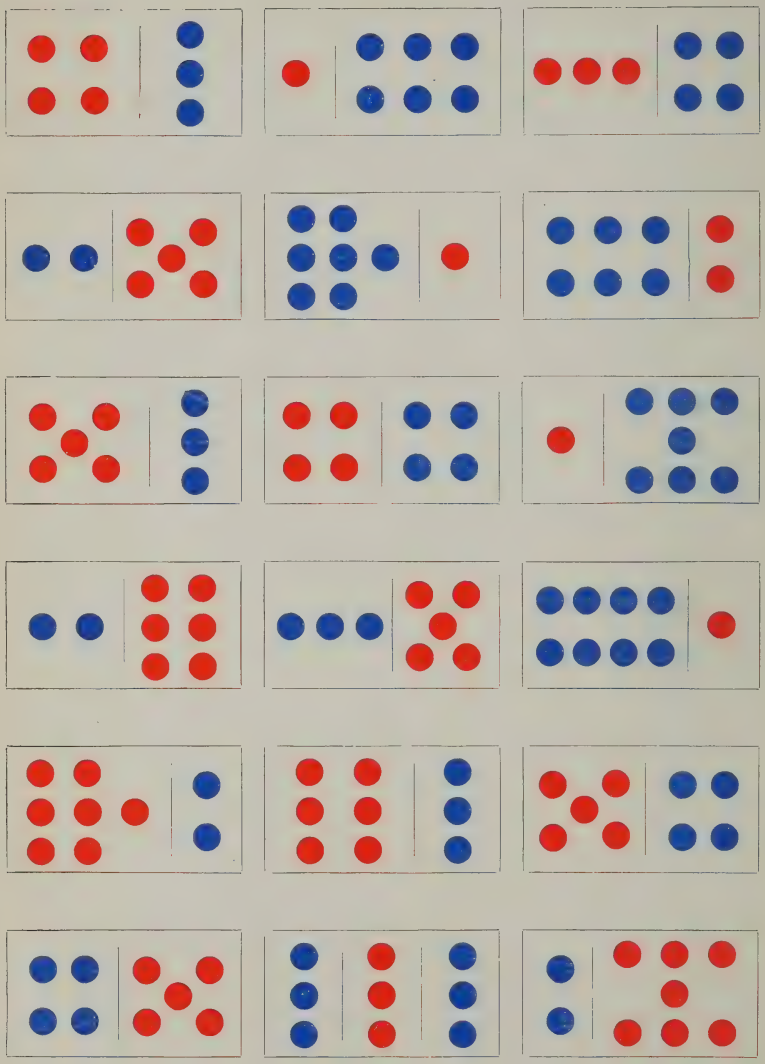
and are ——

and are ——

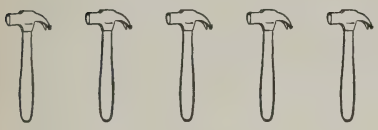
0	10	20	30	40	50	60	70	80	90
1	11	21	31	41	51	61	71	81	91
2	12	22	32	42	52	62	72	82	92
3	13	23	33	43	53	63	73	83	93
4	14	24	34	44	54	64	74	84	94
5	15	25	35	45	55	65	75	85	95
6	16	26	36	46	56	66	76	86	96
7	17	27	37	47	57	67	77	87	97
8	18	28	38	48	58	68	78	88	98
9	19	29	39	49	59	69	79	89	99
									100

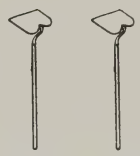
To be used when best suited to the needs of the class.

As soon as numbers are taken up, children should begin learning to count and write to 100, and then to write and read any hundreds.



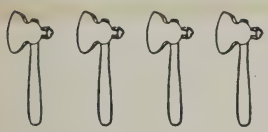
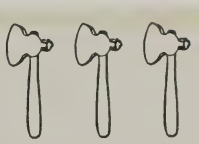
and are ——

 and are ——

and  are ——

and are ——

and are ——

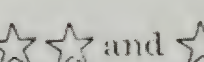
 and  are ——

and are ——.

and and are ——.

and are ——.

and and are ——.

and  are ——.

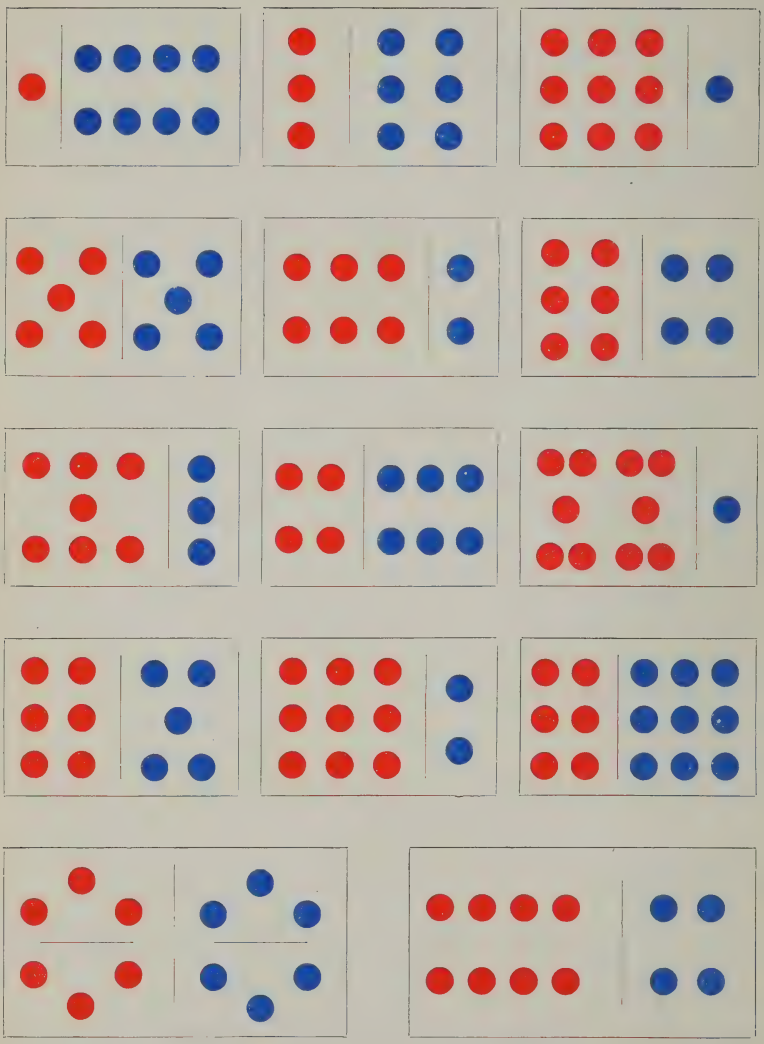
and and are ——.

I = 1	XI = 11
II = 2	XII = 12
III = 3	XIII = 13
IV = 4	XIV = 14
V = 5	XV = 15
VI = 6	XVI = 16
VII = 7	XVII = 17
VIII = 8	XVIII = 18
IX = 9	XIX = 19
X = 10	XX = 20

To be used when best suited to the needs of the class.

The Romans should be taught in advance of those that occur in the reading lessons, that the children may give the page and lesson without hesitation when using their readers.

If a few moments each day are given for drill on the Romans, the children will soon be able to use them wherever they occur.



COPY AND COMPLETE.

1 doll and 1 doll are — dolls.
1 dog and 2 dogs are — dogs.
3 cats and 1 cat are — cats.
2 cups and 2 cups are — cups.
1 egg and 3 eggs are — eggs.
2 tops and 1 top are — tops.
1 nest and 2 nests are — nests.
4 rats and 1 rat are — rats.
3 hens and 2 hens are — hens.
2 books and 3 books are — books.

COPY AND ADD.

1 egg	2 nests	1 cap	3 dolls
1 egg	1 nest	2 caps	1 doll
1 ball	2 fish	1 pig	4 caps
3 balls	2 fish	4 pigs	1 cap

1	1	2	3	1	2	1	1
1	2	1	1	3	2	1	2
4	1	3	2	2	1	3	2
1	4	2	3	1	3	1	2

COPY AND COMPLETE.

1 and 1 are ——.
2 and 1 are ——.
1 and 2 are ——.
3 and 1 are ——.
1 and 3 are ——.

4 and 1 are ——.
1 and 4 are ——.
1 and 3 are ——.
3 and 2 are ——.
2 and 3 are ——.

COPY AND ADD.

2 bats	1 boy	3 girls	1 slate
1 bat	2 boys	1 girl	1 slate
2 drums	1 pan	4 rats	2 cats
2 drums	3 pans	1 rat	3 cats
1 dog	3 rabbits	3 coats	2 dresses
4 dogs	2 rabbits	1 coat	2 dresses

1	2	1	2	1	4	3	1
1	2	2	1	3	1	1	4
3	1	2	3	2	1	1	2
2	3	3	1	2	2	1	1
1	1	1	2	1	3	3	2
2	4	1	2	3	1	2	3

1. If Tom had 1 hat and his papa gave him 1 more, how many would he have?

2. If May had 2 dolls and her mamma gave her 1 more, how many would she have?

3. If Nat had 1 top and his papa gave him 2 more, how many would he have?

4. If Nell had 2 books and her mamma gave her 2 more, how many would she have?

5. If John had 1 ball and his brother gave him 3 more, how many would he have?

6. If Mary had 3 books and her sister gave her 1 more, how many would she have?

7. If George had 1 top and his brother gave him 4 more, how many would he have?

8. If Mary had 2 dolls and her sister gave her 3 more, how many would she have?

9. Fred had 3 balls and he made 1 more; how many did he then have?

10. Frank had 4 cents and his papa gave him 1 more; how many did he then have?

11. Ann had 2 dolls and her mamma gave her 1 more; how many did she then have?

COPY AND COMPLETE.

4 books and 1 book are —— books.
2 slates and 2 slates are —— slates.
3 cows and 2 cows are —— cows.
3 pencils and 1 pencil are —— pencils.
1 pan and 4 pans are —— pans.
1 pen and 2 pens are —— pens.
2 cents and 3 cents are —— cents.
2 hats and 1 hat are —— hats.
5 balls and 1 ball are —— balls.
1 cap and 5 caps are —— caps.
4 dolls and 2 dolls are —— dolls.
5 girls and 1 girl are —— girls.
3 boys and 3 boys are —— boys.
2 hens and 4 hens are —— hens.

COPY AND ADD.

1 book	4 apples	3 men	2 boys
4 books	1 apple	2 men	3 boys

3 cents	2 pens	1 pig	4 cents
2 cents	2 pens	4 pigs	1 cent

2	1	1	2	1	3	2	1
2	1	2	1	3	1	2	3

COPY AND ADD.

3 men	5 apples	1 bat	4 eggs
3 men	1 apple	5 bats	2 eggs
2 caps	3 hats	1 ball	2 cups
4 caps	2 hats	4 balls	4 cups

COPY AND COMPLETE.

6 hats and 1 hat are —— hats.
1 boy and 6 boys are —— boys.
5 men and 2 men are —— men.
2 owls and 5 owls are —— owls.
4 nests and 3 nests are —— nests.
3 birds and 4 birds are —— birds.

5 and 1 are ——.
1 and 5 are ——.
4 and 2 are ——.
2 and 4 are ——.
3 and 3 are ——.

ADD.

1	2	1	1	1	1	2	2	2
1	2	2	3	4	5	1	3	4
3	3	4	2	5	1	1	2	2
2	3	2	4	1	3	5	4	2

COPY AND COMPLETE.

4 chairs and 2 chairs are —— chairs.
1 clock and 6 clocks are —— clocks.
3 apples and 2 apples are —— apples.
2 flies and 5 flies are —— flies.
5 spiders and 1 spider are —— spiders.
3 cows and 4 cows are —— cows.
2 leaves and 3 leaves are —— leaves.
5 bees and 2 bees are —— bees.
2 roses and 4 roses are —— roses.
4 men and 3 men are —— men.

COPY AND ADD.

6 slates 1 slate	1 box 6 boxes	5 caps 2 caps	2 balls 5 balls
4 pans 3 pans	3 cups 4 cups	4 tops 2 tops	3 flags 2 flags

1 1	2 2	3 3	1 2	2 1	1 3	2 1	3 1
3 1	4 1	1 4	3 2	2 3	5 1	4 1	1 1
4 2	2 4	3 3	1 5	6 1	1 6	5 2	2 5
4 3	3 4	5 2	3 3	4 1	6 1	4 1	3 1

COPY AND ADD.

2 hens	1 egg	1 hat	1 cap
1 hen	2 eggs	3 hats	4 caps
1 pan	2 cats	2 tops	2 bats
2 pans	2 cats	3 tops	4 bats
5 dogs	3 cups	4 fans	6 tubs
2 dogs	4 cups	1 fan	1 tub
1 doll	2 fish	3 balls	2 boys
1 doll	2 fish	1 ball	3 boys
1 doll	2 fish	2 balls	1 boy
4 hats	3 caps	5 eggs	1 hen
2 hats	2 caps	1 egg	2 hens
1 hat	2 caps	1 egg	2 hens
2 nests	1 cow	2 cents	4 eggs
1 nest	3 cows	1 cent	1 egg
1 nest	1 cow	2 cents	2 eggs

1	2	3	2	3	1	4	1
1	2	1	1	1	2	1	3
1	2	1	2	1	1	1	2
2	1	4	1	2	3	5	1
1	3	2	2	1	3	1	4
2	2	1	1	2	1	1	1

COPY AND COMPLETE.

2 eggs and 2 eggs are —— eggs.
4 nests and 3 nests are —— nests.
1 hat and 4 hats are —— hats.
5 birds and 2 birds are —— birds.
2 slates and 1 slate are —— slates.
3 books and 2 books are —— books.
2 pens and 4 pens are —— pens.
2 flags and 3 flags are —— flags.
6 pencils and 1 pencil are —— pencils.
3 horses and 4 horses are —— horses.
3 hens and 3 hens are —— hens.
2 cows and 5 cows are —— cows.

2 boys have —— eyes.
3 girls have —— hands.
2 boys have —— feet.
7 birds have —— tails.
2 birds have —— wings.
3 dogs have —— ears.
2 cats have —— eyes.
3 men have —— hands.
6 hens have —— tails.
3 hens have —— ears.
7 birds have —— bills.
3 horses have —— eyes.

COPY AND ADD.

2 nests	1 fly	4 books	1 ball
1 nest	3 flies	1 book	2 balls
2 nests	1 fly	1 book	1 ball
4 cans	4 birds	4 pins	3 eggs
1 can	2 birds	3 pins	4 eggs
5 cards	5 boys	2 cups	6 sleds
1 card	2 boys	5 cups	1 sled
1 girl	5 books	3 hats	3 fans
6 girls	2 books	2 hats	4 fans
5 fish	1 doll	4 flies	5 drums
1 fish	6 dolls	3 flies	2 drums
3 pens	3 cows	2 horses	4 ducks
4 pens	2 cows	5 horses	3 ducks

1 hat and 1 hat are —— hats.
5 flies and 2 flies are —— flies.
2 caps and 1 cap are —— caps.
2 boxes and 2 boxes are —— boxes.
3 dolls and 1 doll are —— dolls.
4 leaves and 3 leaves are —— leaves.

COPY AND ADD.

3	2	1	3	1	1	5	3	4	1
3	2	1	1	4	6	1	2	1	3

6	1	5	2	4	3	3	1	1	2
1	6	2	5	3	4	2	2	3	2

3	2	4	5	1	4	3	2	2	3
1	3	2	1	3	1	3	1	3	1

1	1	1	1	1	1	2	2	2	2
1	2	3	4	5	6	1	2	3	4

2	3	3	3	3	4	4	4	5	5
5	1	2	3	4	1	2	3	1	2

2	3	4	5	6	1	2	3	4	5
1	1	1	1	1	2	2	2	2	2

1	2	3	4	1	2	3	1	2	1
3	3	3	3	4	4	4	5	5	6

2	1	4	3	1	6	2	1	1	5
2	1	2	3	3	1	3	6	4	1

COPY AND COMPLETE.

7 pencils and 1 pencil are —— pencils.
1 book and 7 books are —— books.
6 boxes and 2 boxes are —— boxes.
2 cows and 6 cows are —— cows.
5 horses and 3 horses are —— horses.
3 owls and 5 owls are —— owls.
4 hens and 4 hens are —— hens.
3 ducks and 2 ducks are —— ducks.
4 drums and 3 drums are —— drums.
2 trees and 4 trees are —— trees.
2 bats and 3 bats are —— bats.
3 slates and 5 slates are —— slates.
2 cents and 3 cents are —— cents.
5 pans and 2 pans are —— pans.
2 caps and 6 caps are —— caps.
4 tops and 3 tops are —— tops.
3 bees and 5 bees are —— bees.
6 sheep and 1 sheep are —— sheep.
4 leaves and 4 leaves are —— leaves.
6 pens and 2 pens are —— pens.
7 tubs and 1 tub are —— tubs.
2 cards and 5 cards are —— cards.
5 balls and 3 balls are —— balls.
1 gun and 7 guns are —— guns.

COPY AND ADD.

4 trees	7 bells	1 slate	6 dolls
4 trees	1 bell	7 slates	2 dolls
2 pigs	5 cows	3 horses	4 owls
6 pigs	3 cows	5 horses	3 owls
7 ducks	4 tubs	4 hens	1 sheep
1 duck	4 tubs	2 hens	6 sheep
3 eggs	2 fish	1 pan	4 books
5 eggs	5 fish	7 pans	3 books
5 pins	2 coats	4 dresses	7 hats
3 pins	6 coats	2 dresses	1 hat
1 clock	2 guns	3 balls	5 dogs
4 clocks	2 guns	3 balls	2 dogs
3 clocks	4 guns	2 balls	1 dog
2 caps	1 cent	3 chairs	2 tubs
3 caps	1 cent	2 chairs	2 tubs
3 caps	6 cents	1 chair	3 tubs

2	1	6	3	4	1	1	4
2	3	0	2	1	2	0	2
2	2	1	3	1	3	3	2
1	5	3	2	3	4	2	3
3	1	1	2	3	2	4	3
4	2	1	2	1	2	2	2

COPY AND COMPLETE.

6 and 1 are ——.
1 and 6 are ——.
5 and 2 are ——.
2 and 5 are ——.
4 and 3 are ——.
3 and 4 are ——.
7 and 1 are ——.
1 and 7 are ——.
6 and 2 are ——.
2 and 6 are ——.

5 and 3 are ——.
3 and 5 are ——.
5 and 1 are ——.
4 and 2 are ——.
3 and 3 are ——.
4 and 1 are ——.
3 and 2 are ——.
1 and 5 are ——.
2 and 3 are ——.
1 and 4 are ——.

COPY AND ADD.

6	1	5	4	2	3	1	2	1	3
1	5	1	2	4	1	3	1	2	3

3	4	1	3	2	1	3	4	1	5
2	1	4	3	2	1	4	3	6	2

2	4	3	4	6	2	2	7	1	3
5	3	4	4	2	6	3	1	7	5

6	5	7	3	1	2	2	3	3	2
2	3	1	5	7	3	6	5	4	4

COPY AND COMPLETE.

2 and 4 and 2 are ——.
3 and 1 and 4 are ——.
5 and 2 and 1 are ——.
1 and 1 and 6 are ——.
1 and 4 and 3 are ——.
5 and 1 and 2 are ——.
3 and 3 and 2 are ——.
2 and 1 and 5 are ——.
4 and 2 and 2 are ——.

3 and 4 and 1 are ——.
1 and 3 and 4 are ——.
6 and 1 and 1 are ——.
1 and 5 and 2 are ——.
2 and 2 and 3 are ——.
1 and 3 and 2 are ——.
2 and 2 and 3 are ——.
1 and 1 and 5 are ——.
2 and 3 and 1 are ——.

4 girls have —— eyes.
4 boys have —— feet.
3 hens have —— legs.
1 spider has —— legs.
2 dogs have —— feet.
3 horses have —— ears.
2 cows have —— feet.
1 spider has —— eyes.
7 hens have —— bills.
4 men have —— hands.
4 boys have —— eyes.

ADD.

3	4	1	3	2	3	2	5	2	1
3	2	3	2	4	3	2	1	2	1
1	2	2	3	2	1	1	2	3	3

COPY AND ADD.

2	1	3	4	1	2	1	2
4	3	1	2	1	2	2	2
5	1	2	4	3	3	1	2
1	5	4	2	3	2	4	3
4	6	1	5	2	3	4	7
1	1	6	2	5	4	3	1
1	4	6	2	5	3	7	3
7	4	2	6	3	5	1	2
1	1	1	1	1	1	2	2
2	3	4	5	6	7	1	2
2	2	2	2	3	3	3	3
3	4	5	6	1	2	3	4
1	1	1	1	1	1	2	2
1	2	3	4	5	6	1	2
2	2	2	2	2	2	3	3
1	2	3	4	5	6	1	2

3 cents and 2 cents are —— cents.

6 slates and 1 slate are —— slates.

4 tubs and 2 tubs are —— tubs.

3 hens and 4 hens are —— hens.

2 cents and 3 cents are —— cents.

1 + 1 =	4 + 1 =	1 + 6 =	3 + 3 =
2 + 1 =	1 + 4 =	7 + 1 =	2 + 3 =
1 + 2 =	5 + 1 =	1 + 7 =	4 + 1 =
3 + 1 =	1 + 5 =	2 + 1 =	3 + 2 =
1 + 3 =	6 + 1 =	2 + 2 =	2 + 4 =

2 + 2 =	3 + 2 =	6 + 1 =	3 + 4 =
1 + 3 =	4 + 1 =	1 + 6 =	4 + 4 =
3 + 1 =	3 + 3 =	5 + 2 =	3 + 5 =
5 + 1 =	4 + 2 =	2 + 5 =	5 + 3 =
1 + 5 =	2 + 4 =	4 + 3 =	7 + 1 =

1 + 7 =	1 + 1 =	4 + 1 =	5 + 2 =
4 + 4 =	1 + 3 =	4 + 2 =	5 + 3 =
3 + 3 =	5 + 1 =	4 + 3 =	6 + 1 =
2 + 2 =	5 + 2 =	4 + 4 =	6 + 2 =
3 + 1 =	5 + 3 =	5 + 1 =	1 + 4 =

ADD.

4	3	7	8	2	3	5	5
2	3	0	0	3	4	1	2
2	2	1	0	3	1	2	1

2	3	2	1	2	2	5	6
2	3	2	2	1	1	1	1
2	1	1	4	2	2	1	1
2	1	3	1	3	2	1	0

Explain the use of the *plus* and *equality* signs.

COPY AND ADD.

2	1	3	1	5	1	7	1
2	2	1	4	1	6	1	1
4	2	6	2	3	4	1	4
2	5	2	2	3	4	3	1
2	3	4	5	2	1	1	6
5	5	2	2	1	4	7	2
3	6	7	4	2	5	1	4
5	1	1	4	4	2	5	3
1	2	3	2	5	1	2	1
1	1	3	1	2	1	2	3
2	2	1	3	1	4	3	3
2	1	5	1	4	5	4	3
2	4	1	1	2	1	2	1
2	2	1	6	1	1	2	1

3 roses	1 bee	6 hens	4 horses
2 roses	3 bees	1 hen	2 horses
3 cows	5 mules	2 rats	4 sheep
3 cows	2 mules	4 rats	3 sheep
4 leaves	2 rabbits	3 pigs	5 dogs
2 leaves	5 rabbits	2 pigs	2 dogs

COPY AND ADD.

1 + 1 + 1 =	3 + 1 + 1 =	2 + 1 + 1 =
2 + 2 + 2 =	1 + 4 + 2 =	3 + 2 + 2 =
1 + 3 + 1 =	4 + 1 + 1 =	2 + 1 + 2 =
4 + 2 + 2 =	1 + 3 + 2 =	1 + 5 + 1 =
1 + 4 + 1 =	1 + 1 + 3 =	5 + 1 + 1 =
2 + 2 + 0 =	2 + 2 + 2 =	1 + 3 + 3 =
1 + 3 + 4 =	3 + 3 + 1 =	6 + 1 + 1 =
3 + 1 + 2 =	1 + 2 + 2 =	4 + 1 + 1 =
1 + 2 + 1 =	3 + 3 + 1 =	1 + 5 + 1 =
3 + 1 + 3 =	2 + 2 + 4 =	6 + 1 + 1 =
1 + 3 + 3 =	3 + 1 + 2 =	1 + 2 + 2 =
5 + 1 + 1 =	1 + 3 + 1 =	1 + 1 + 3 =
1 + 2 + 3 =	2 + 1 + 2 =	3 + 2 + 2 =
3 + 1 + 2 =	4 + 2 + 1 =	1 + 3 + 3 =

ADD.

1	2	7	4	5	1	1	5	7
0	2	0	4	2	7	6	3	1
3	3	5	4	7	5	3	6	4
5	2	3	3	1	3	5	2	3

2 horses have —— feet.
4 cows have —— ears.
2 mules have —— feet.
2 dogs have —— eyes.
4 cats have —— ears.
4 birds have —— eyes.
2 sheep have —— feet.
8 ducks have —— bills.
2 rats have —— feet.
4 men have —— eyes.

COPY AND COMPLETE.

8 boats and 1 boat are —— boats.
4 men and 4 men are —— men.
7 balls and 2 balls are —— balls.
2 boys and 6 boys are —— boys.
6 spiders and 3 spiders are — spiders.
3 chairs and 5 chairs are —— chairs.
5 flies and 4 flies are —— flies.
4 owls and 5 owls are —— owls.
3 ducks and 6 ducks are —— ducks.
2 hens and 7 hens are —— hens.
3 dogs and 4 dogs are —— dogs.
1 cow and 8 cows are —— cows.
7 ducks and 1 duck are —— ducks.
5 horses and 3 horses are —— horses.
2 barns and 5 barns are —— barns.
3 pigs and 4 pigs are —— pigs.
2 bats and 3 bats are —— bats.
6 rabbits and 2 rabbits are —— rabbits.
1 hat and 6 hats are —— hats.
2 bees and 5 bees are —— bees.
3 cents and 2 cents are —— cents.
5 apples and 1 apple are —— apples.
4 clocks and 3 clocks are —— clocks.
2 ducks and 4 ducks are —— ducks.
5 pens and 3 pens are —— pens.

COPY AND ADD.

8 rabbits	1 dish	7 cups	2 pans
1 rabbit	8 dishes	2 cups	7 pans
6 stars	3 horses	5 wagons	4 clocks
3 stars	6 horses	4 wagons	5 clocks
1 cake	4 beans	6 melons	5 beets
7 cakes	3 beans	2 melons	2 beets
2 baskets	5 apples	4 boys	3 girls
5 baskets	3 apples	5 boys	6 girls
3 pens	4 books	6 slates	7 pencils
3 pens	2 books	1 slate	1 pencil
3 pens	3 books	2 slates	1 pencil
4 cents	3 chairs	3 clocks	2 beans
2 cents	2 chairs	4 clocks	2 beans
3 cents	3 chairs	2 clocks	5 beans
3 nuts	2 bells	4 dishes	3 beds
1 nut	3 bells	2 dishes	2 beds
5 nuts	2 bells	1 dish	2 beds

COPY AND COMPLETE.

8 and 1 are ——.
1 and 8 are ——.
7 and 2 are ——.
2 and 7 are ——.
6 and 3 are ——.
3 and 6 are ——.
5 and 4 are ——.
4 and 5 are ——.

3 and 4 are ——.
4 and 2 are ——.
2 and 3 are ——.
6 and 2 are ——.
2 and 5 are ——.
4 and 3 are ——.
1 and 6 are ——.
5 and 2 are ——.

COPY AND ADD.

8	1	7	2	6	3	5	4	2	3
1	8	2	7	3	6	4	5	4	3

3	6	3	5	7	1	4	5	6	7
2	2	4	3	2	6	3	2	3	1

7	3	4	3	7	1	3	2	8	5
2	6	5	4	2	8	2	7	1	2

4	6	2	3	2	5	6	1	5	6
4	1	6	5	5	1	2	8	3	2

2	1	6	4	5	7	4	2	5	3
5	8	3	3	4	1	4	3	4	6

COPY AND ADD.

2	1	3	1	4	2	1	4	3	4
2	2	3	1	2	1	4	1	3	2
2	3	3	1	2	1	2	1	2	1
1	7	3	4	4	3	4	3	5	6
2	2	1	1	4	3	2	4	3	2
2	0	1	2	1	2	1	2	1	0
5	3	6	7	8	1	4	3	4	7
1	2	1	1	1	0	1	1	2	1
1	2	1	1	0	7	1	1	1	1
2	8	1	8	4	3	2	3	2	3
0	1	7	1	1	3	2	3	2	3
3	0	1	0	4	1	5	3	5	1
1	3	2	7	3	1	4	6	1	4
3	2	4	1	2	0	1	0	3	2
4	1	2	1	4	6	2	3	4	2
5	4	6	7	3	1	2	3	4	1
1	3	1	1	2	4	4	2	2	2
1	1	1	0	3	2	1	4	2	6
3	4	5	7	2	3	3	2	1	5
3	2	2	0	2	2	1	3	6	2
3	1	2	1	4	2	4	3	1	2

1. If Tom had 4 balls and his papa gave him 1 more, how many would he have?

2. If Mary had 3 apples and her brother gave her two more, how many would she have?

3. If John had 4 eggs in his basket and found 2 more, how many would he have?

4. If Nell had 4 pencils and bought 3 more, how many would she have?

5. If George had 5 marbles and bought 3 more, how many would he have?

6. If Nat had 6 rabbits and his papa gave him 3 more, how many would he have?

7. If Grace had 5 dresses and her mamma bought her 2 more, how many would she have?

8. If Frank had 6 marbles and bought 2 more, how many would he have?

9. If Fred had 5 eggs in his basket and put in 4 more, how many would he have in the basket?

10. If May had 6 dresses and bought 1 more, how many would she have?

11. If Frank had 5 pigs and bought 2 more, how many would he have?

LESSON XXXIV.

COPY AND ADD.

8 + 1 =	3 + 6 =	6 + 2 =	1 + 8 =
1 + 8 =	5 + 4 =	2 + 3 =	5 + 4 =
7 + 2 =	4 + 5 =	4 + 2 =	4 + 3 =
2 + 7 =	3 + 4 =	2 + 5 =	3 + 2 =
6 + 3 =	5 + 3 =	7 + 1 =	6 + 1 =
7 + 1 =	6 + 2 =	3 + 4 =	5 + 3 =

5 + 4 =	1 + 6 =	6 + 3 =	5 + 4 =
7 + 1 =	2 + 4 =	4 + 4 =	2 + 6 =
5 + 3 =	4 + 5 =	7 + 2 =	4 + 3 =
4 + 2 =	5 + 3 =	3 + 4 =	2 + 7 =
3 + 5 =	6 + 2 =	3 + 6 =	8 + 1 =
7 + 2 =	5 + 4 =	1 + 8 =	3 + 5 =

4 + 4 =	4 + 5 =	3 + 3 =	7 + 2 =
2 + 7 =	3 + 4 =	5 + 4 =	2 + 5 =
1 + 3 =	2 + 5 =	2 + 2 =	5 + 3 =
4 + 1 =	6 + 3 =	2 + 7 =	3 + 6 =
3 + 6 =	3 + 2 =	1 + 4 =	4 + 3 =
4 + 3 =	5 + 3 =	5 + 2 =	6 + 2 =

4 + 5 =	1 + 8 =	2 + 3 =	5 + 3 =
2 + 6 =	7 + 2 =	3 + 4 =	5 + 2 =
1 + 7 =	4 + 3 =	1 + 6 =	2 + 7 =
6 + 3 =	7 + 2 =	5 + 4 =	3 + 4 =
4 + 2 =	1 + 5 =	4 + 3 =	6 + 3 =
2 + 7 =	8 + 1 =	3 + 5 =	3 + 2 =

ADD AT SIGHT.

2	4	1	4	2	2	3	1	3	3
2	2	3	1	1	4	1	4	2	4

3	2	1	6	1	3	2	1	7	2
3	3	2	1	5	2	4	6	1	5

5	3	4	5	6	4	4	8	7	3
1	4	3	4	2	4	5	1	2	2

4	2	4	2	1	3	4	3	5	7
2	7	5	6	6	2	3	6	2	1

1	1	1	1	1	1	1	2	2	2
2	3	4	5	6	7	8	0	1	2

2	2	2	2	3	3	3	3	3	5
4	5	6	7	1	2	4	5	6	2

4	4	4	4	4	5	5	5	5	8
1	2	3	4	5	1	2	3	4	1

6	6	6	7	7	8	1	2	3	7
1	2	3	1	2	1	1	1	1	2

XXI = 21	XXXI = 31
XXII = 22	XXXII = 32
XXIII = 23	XXXIII = 33
XXIV = 24	XXXIV = 34
XXV = 25	XXXV = 35
XXVI = 26	XXXVI = 36
XXVII = 27	XXXVII = 37
XXVIII = 28	XXXVIII = 38
XXIX = 29	XXXIX = 39
XXX = 30	XL = 40

To be used when best suited to the needs of the class.

XLI = 41

XLII = 42

XLIII = 43

XLIV = 44

XLV = 45

XLVI = 46

XLVII = 47

XLVIII = 48

XLIX = 49

L = 50

LI = 51

LII = 52

LIII = 53

LIV = 54

LV = 55

LVI = 56

LVII = 57

LVIII = 58

LIX = 59

LX = 60

To be used when best suited to the needs of the class.

COPY AND ADD.

$1+1+1=$	$3+2+4=$	$1+6+2=$
$2+2+2=$	$1+1+6=$	$7+1+1=$
$3+3+3=$	$4+2+3=$	$8+0+1=$
$1+2+1=$	$1+3+4=$	$1+2+5=$
$3+1+2=$	$3+2+3=$	$5+3+1=$
$4+2+1=$	$2+3+4=$	$3+4+2=$

$1+1+6=$	$7+1+1=$	$8+1+0=$
$7+0+1=$	$4+2+2=$	$3+3+3=$
$0+3+4=$	$5+1+1=$	$2+3+2=$
$5+2+2=$	$2+3+3=$	$4+3+1=$
$3+3+3=$	$6+1+2=$	$6+1+2=$
$1+2+4=$	$7+1+0=$	$3+2+4=$

Count to 100.

Count to 20 in Romans.

ADD.

2	3	4	5	3	7	8	4	1
3	3	4	1	3	1	1	2	3
4	3	1	3	2	1	0	3	2

6	4	3	4	6	3	7	2	4
1	2	3	2	0	3	1	4	2
1	2	1	1	3	3	1	3	2

COPY AND COMPLETE.

9 boys and 1 boy are —— boys.
8 men and 2 men are —— men.
1 hat and 9 hats are —— hats.
7 nuts and 2 nuts are —— nuts.
2 cents and 8 cents are —— cents.
7 fish and 3 fish are —— fish.
3 birds and 7 birds are —— birds.
8 hens and 1 hen are —— hens.
6 books and 4 books are —— books.
4 girls and 6 girls are —— girls.
5 cents and 5 cents are —— cents.
6 chairs and 2 chairs are —— chairs.

ADD.

8	6	7	4	7	3	6	5	6
1	3	2	5	1	5	3	4	2

9 dolls	1 cent	8 cats	2 dogs	7 pens
1 doll	9 cents	2 cats	8 dogs	3 pens

7 pigs	3 cows	6 owls	4 rats	5 cents
3 pigs	7 cows	4 owls	6 rats	5 cents

3 cents	1 clock	6 cats	7 bats	2 fish
2 cents	3 clocks	2 cats	1 bat	3 fish
5 cents	4 clocks	2 cats	1 bat	5 fish

COPY AND ADD.

9	1	8	2	7	3	6	4	5	7	6	4
1	9	2	8	3	7	4	6	5	2	3	3
5	4	6	3	1	4	5	5	6	1	4	5
2	2	4	2	7	5	3	2	3	4	2	3
5	2	6	3	5	2	3	1	9	4	8	2
5	5	2	6	3	7	4	8	1	1	2	3
7	2	4	5	2	3	1	2	6	3	3	1
3	3	6	2	8	4	9	5	4	3	7	8
6	1	1	4	3	3	9	2	4	8	5	1
4	6	8	5	7	6	1	8	3	2	2	9

COPY AND COMPLETE.

4 apples and 6 apples are —— apples.
3 spiders and 4 spiders are —— spiders.
8 sheep and 2 sheep are —— sheep.
2 horses and 5 horses are —— horses.
6 cows and 4 cows are —— cows.
4 barns and 3 barns are —— barns.
3 wagons and 7 wagons are —— wagons.
6 men and 3 men are —— men.
1 cent and 9 cents are —— cents.
5 flags and 3 flags are —— flags.

COPY AND ADD.

$9 + 1 =$	$4 + 6 =$	$6 + 4 =$	$7 + 2 =$
$8 + 2 =$	$5 + 5 =$	$7 + 2 =$	$3 + 7 =$
$2 + 8 =$	$4 + 3 =$	$3 + 4 =$	$4 + 3 =$
$7 + 3 =$	$2 + 7 =$	$4 + 6 =$	$8 + 2 =$
$6 + 4 =$	$5 + 3 =$	$3 + 5 =$	$3 + 6 =$
$5 + 5 =$	$3 + 5 =$	$5 + 2 =$	$4 + 4 =$
$3 + 2 =$	$6 + 4 =$	$7 + 3 =$	$3 + 7 =$
$5 + 3 =$	$7 + 2 =$	$2 + 8 =$	$1 + 8 =$
$3 + 7 =$	$3 + 7 =$	$6 + 3 =$	$3 + 3 =$
$4 + 5 =$	$9 + 1 =$	$8 + 2 =$	$5 + 2 =$
$6 + 4 =$	$4 + 3 =$	$5 + 4 =$	$5 + 5 =$
$9 + 1 =$	$5 + 5 =$	$9 + 1 =$	$4 + 6 =$
$8 + 1 =$	$7 + 2 =$	$6 + 3 =$	$3 + 4 =$
$7 + 3 =$	$3 + 7 =$	$3 + 5 =$	$8 + 2 =$
$4 + 5 =$	$2 + 2 =$	$4 + 3 =$	$4 + 5 =$
$6 + 4 =$	$8 + 2 =$	$6 + 4 =$	$1 + 9 =$
$3 + 5 =$	$5 + 4 =$	$5 + 3 =$	$5 + 4 =$

1. If Frank had 4 apples and found 6 more, how many would he have?

2. If Fred had 7 eggs in his basket and put in 3 more, how many would he have?

3. If John had 5 marbles and bought 4 more, how many would he have?

4. If Mary had 8 paper dolls and made 2 more, how many would she have?

In 2 there are how many ones?
In 2 there are —— ones.
In 4 there are how many twos?
In 4 there are —— twos.
In 6 there are —— twos.
In 6 there are —— threes.
In 8 there are —— twos.
In 8 there are —— fours.
In 9 there are —— threes.
In 10 there are —— twos.
In 10 there are —— fives.
In 10 there are —— ones.

1. If May had 5 cents and her papa gave her 5 more, how many would she have?

2. If a man had 7 sheep and bought 2 more, how many would he have?

3. If Nat had 6 marbles and his mamma gave him 4 more, how many would he have?

4. If George had 5 rabbits and his brother gave him 4 more, how many would he have?

5. If Nell had 9 dresses and her mother gave her 1 more, how many would she have?

6. If Tom had 7 hens and bought 2 more, how many would he have?

COMBINATIONS IN ADDITION FROM 1 TO 15;
SUBTRACTION FROM 1 TO 13.

LESSON I.

COPY AND COMPLETE.

1 book; take away 1 book, leaves ___ ___.
2 apples; take away 1 apple, leaves ___ ___.
3 pencils; take away 2 pencils, leaves ___ ___.
3 dolls; take away 1 doll, leaves ___ ___.
3 hats; take away 3 hats, leaves ___ ___.
4 balls; take away 1 ball, leaves ___ ___.
4 marbles; take away 2 marbles, leaves ___ ___.
4 pens; take away 3 pens, leaves ___ ___.
4 slates; take away 4 slates, leaves ___ ___.

SUBTRACT.

2 books	2 chairs	3 clocks	3 cents	3 beans
−1 book	2 chairs	1 clock	2 cents	3 beans

4 nuts	4 dolls	4 hats	4 caps	1 pen
−1 nut	2 dolls	3 hats	4 caps	1 pen

2	1	2	3	3	3	4	4	4	4
−1	1	2	1	2	3	1	2	3	4

Explain the use of the *minus* sign.

Much oral work in subtraction should also be given by the teacher.

COPY AND COMPLETE.

10 cows and 1 cow are —— cows.
9 horses and 2 horses are —— horses.
8 mules and 3 mules are —— mules.
7 sheep and 4 sheep are —— sheep.
6 wagons and 5 wagons are —— wagons.
5 carts and 6 carts are —— carts.
4 birds and 7 birds are —— birds.
3 books and 8 books are —— books.
2 pencils and 9 pencils are —— pencils.
1 duck and 10 ducks are —— ducks.

ADD.

10 chairs	9 tables	8 cats	7 dogs	6 rats
+ 1 chair	2 tables	3 cats	4 dogs	5 rats

6	5	7	4	8	3	10	1	9	2
+5	6	4	7	3	8	1	10	2	9
10	1	9	2	7	4	6	8	5	3
+1	10	2	9	4	7	5	3	6	8
4	7	4	8	6	1	5	5	6	3
+5	3	3	2	3	7	3	2	2	5
6	5	4	8	4	8	4	7	8	9
+4	2	6	1	5	2	3	1	1	1

NOTE.—Oral work in subtraction by teacher with this lesson.

COPY AND COMPLETE.

5 books; take away 1 book, leaves ___ ___.
5 chairs; take away 2 chairs, leaves ___ ___.
5 tables; take away 3 tables, leaves ___ ___.
5 clocks; take away 4 clocks, leaves ___ ___.
5 cents; take away 5 cents, leaves ___ ___.
6 slates; take away 1 slate, leaves ___ ___.
6 pens; take away 2 pens, leaves ___ ___.
6 hats; take away 3 hats, leaves ___ ___.
6 caps; take away 4 caps, leaves ___ ___.
6 apples; take away 5 apples, leaves ___ ___.
6 pears; take away 6 pears, leaves ___ ___.

SUBTRACT.

5 birds	5 ducks	5 hens	5 pigs	5 sheep
−1 bird	2 ducks	3 hens	4 pigs	5 sheep

6 horses	6 wagons	6 carts	6 sleds	6 owls
−1 horse	2 wagons	3 carts	4 sleds	5 owls

6	5	5	5	5	5	6	6	6	6
−6	1	2	3	4	5	1	2	3	4

6	6	4	3	4	3	5	5	6	6
−5	6	3	2	2	1	3	2	1	3

SUBTRACT.

2	4	3	5	4	2	1	3	4	3
−1	2	1	3	1	2	1	2	3	0
4	3	2	3	5	4	5	4	5	5
−4	2	0	3	2	2	1	2	4	3
5	5	6	2	5	3	2	4	1	6
−5	0	3	2	3	2	1	3	1	4
6	3	2	6	3	6	2	6	5	6
−2	1	1	1	3	3	2	5	3	6
6	5	4	3	6	5	6	5	6	5
−0	2	3	2	4	1	3	2	4	4

1 − 1 =	4 − 1 =	5 − 3 =	6 − 4 =
2 − 1 =	4 − 2 =	5 − 4 =	6 − 5 =
2 − 2 =	4 − 3 =	5 − 5 =	6 − 6 =
3 − 1 =	4 − 4 =	6 − 1 =	5 − 0 =
3 − 2 =	5 − 1 =	6 − 2 =	4 − 3 =
3 − 3 =	5 − 2 =	6 − 3 =	6 − 4 =

3 + 3 + 5 =	8 + 1 + 2 =	5 + 3 + 2 =
7 + 2 + 2 =	1 + 9 + 1 =	4 + 2 + 3 =
1 + 8 + 2 =	3 + 5 + 3 =	3 + 3 + 2 =
9 + 1 + 1 =	2 + 7 + 2 =	5 + 4 + 1 =
5 + 3 + 3 =	1 + 7 + 3 =	7 + 1 + 0 =
2 + 7 + 2 =	3 + 1 + 7 =	3 + 2 + 2 =

Count by 2's to 20. Count to 100.

Count by 3's to 15. Count to 25 in Romans.

Count by 4's to 12. Count to 30 in Romans.

6 + 5 =	1 + 10 =	6 + 4 =	4 + 5 =
5 + 6 =	7 + 4 =	7 + 2 =	7 + 4 =
9 + 2 =	4 + 7 =	3 + 7 =	6 + 3 =
2 + 9 =	8 + 3 =	4 + 3 =	4 + 6 =
10 + 1 =	3 + 8 =	5 + 4 =	6 + 5 =
1 + 10 =	4 + 5 =	8 + 3 =	9 + 2 =
7 + 3 =	5 + 3 =	2 + 8 =	2 + 6 =

4 − 2 =	3 − 3 =	6 − 5 =	5 − 4 =
3 − 1 =	6 − 4 =	4 − 0 =	6 − 1 =
3 − 2 =	4 − 3 =	5 − 3 =	5 − 3 =
4 − 1 =	5 − 2 =	4 − 2 =	5 − 4 =
6 − 2 =	4 − 4 =	6 − 6 =	6 − 1 =
5 − 4 =	6 − 2 =	5 − 1 =	6 − 0 =
6 − 5 =	5 − 3 =	6 − 6 =	5 − 2 =

2 + 2 + 7 =	3 + 5 + 3 =	3 + 3 + 3 =
3 + 3 + 3 =	8 + 1 + 2 =	2 + 2 + 2 =
8 + 2 + 1 =	4 + 2 + 1 =	4 + 4 + 3 =
4 + 3 + 4 =	1 + 3 + 7 =	9 + 1 + 1 =
3 + 5 + 3 =	9 + 0 + 2 =	1 + 5 + 4 =
8 + 1 + 2 =	8 + 1 + 1 =	7 + 2 + 2 =
10 + 0 + 1 =	2 + 8 + 1 =	3 + 3 + 4 =

1. If John had 2 books and gave 1 to Mary, how many would he have left?

2. If Nell had 3 apples and ate 2, how many would she have left?

3. If George had 4 rabbits and 3 died, how many would he have left?

4. If Mary had 3 dolls and lost 1, how many would she have left?

5. If Nat had 6 marbles and lost 4, how many would he have left?

6. If May had 5 pet hens and 3 died, how many would she have left?

7. If Tom had 4 apples and gave George 2, how many would he have left?

8. If Ann had 6 little pet chickens and 2 died, how many would she have left?

9. If Frank had 5 pencils and gave 1 to his brother, how many would he have left?

10. If Grace had 6 dolls and lost 3, how many would she have left?

11. If Fred had 5 balls and gave Frank 2, how many would he have left?

12. If a little boy had 3 hats and gave 1 away, how many would he have left?

13. If Ned had 6 pet pigs and 1 ran away, how many would he have left?

COPY AND COMPLETE.

7 boxes; take away 1 box, leaves — — — —.
7 tops; take away 2 tops, leaves — — .
7 balls; take away 3 balls, leaves — — .
7 marbles; take away 4 marbles, leaves — — .
7 knives; take away 5 knives, leaves — — .
7 dolls; take away 6 dolls, leaves — —.
7 hats; take away 7 hats, leaves — —.

SUBTRACT.

7 caps	7 hens	7 birds	7 owls	7 bats
−1 cap	7 hens	2 birds	5 owls	3 bats

7 ducks	7 eggs	7 books	6 slates	5 pens
−6 ducks	4 eggs	5 books	4 slates	3 pens

7	7	7	7	7	7	7	7	4	5
−3	6	4	1	5	2	7	0	3	4

6	6	3	5	3	2	6	4	6	4
−5	2	3	2	2	1	4	3	1	4

2	3	5	1	7	6	7	6	7	6
−2	1	5	1	4	3	5	0	2	2

ADD.

3	4	3	6	8	3	7	6	2	4	7
3	4	2	1	2	2	1	3	3	3	0
+3	2	1	1	1	2	1	2	2	2	1

2	2	4	3	7	1	3	8	2	4	9
1	2	4	3	1	2	3	1	4	3	1
+3	2	1	2	1	4	5	2	2	4	1

2	3	1	8	1	1	4	3	2	1	2
3	2	1	1	1	6	5	2	2	7	3
+4	3	7	1	9	4	2	4	5	3	6

1	3	9	4	3	4	6	8	4	2	6
3	3	1	2	2	3	2	2	4	2	2
+5	4	0	5	2	2	1	1	3	5	3

$7-1=$	$6-1=$	$5-0=$	$4-0=$
$7-2=$	$6-2=$	$5-1=$	$4-1=$
$7-3=$	$6-3=$	$5-2=$	$4-2=$
$7-4=$	$6-4=$	$5-3=$	$4-3=$
$7-5=$	$6-5=$	$5-4=$	$4-4=$
$7-6=$	$6-6=$	$5-5=$	$7-1=$
$7-7=$	$6-0=$	$7-4=$	$7-6=$
$7-0=$	$7-3=$	$7-6=$	$7-3=$
$3-3=$	$3-0=$	$3-1=$	$4-4=$

Count by 2's to 50.

COPY AND COMPLETE.

11 boys and 1 boy are — boys.
10 men and 2 men are —— men.
9 girls and 3 girls are —— girls.
8 flowers and 4 flowers are — — flowers.
7 leaves and 5 leaves are —— leaves.
6 roses and 6 roses are —— roses.
5 bees and 7 bees are —— bees.
4 flies and 8 flies are —— flies.
3 spiders and 9 spiders are —— spiders.
2 owls and 10 owls are —— owls.
1 bird and 11 birds are —— birds.

ADD.

11 chairs	1 table	10 barns	2 wagons
1 chair	11 tables	2 barns	10 wagons
3 mules	8 horses	4 cows	7 sheep
9 mules	4 horses	8 cows	5 sheep
5 pigs	4 dogs	3 hens	2 ducks
7 pigs	8 dogs	9 hens	10 ducks
8 cups	9 carts	6 hogs	1 bat
4 cups	3 carts	6 hogs	11 bats

COPY AND COMPLETE.

8 marbles; take away 1 marble, leaves ——.
8 pencils; take away 2 pencils, leaves ——.
8 wagons; take away 3 wagons, leaves ——.
8 carts; take away 4 carts, leaves ——.
8 sheep; take away 5 sheep, leaves ——.
8 mules; take away 6 mules, leaves ——.
8 rabbits; take away 7 rabbits, leaves ——.
8 frogs; take away 8 frogs, leaves ——.

SUBTRACT.

8 bees	8 roses	8 frogs	8 guns	8 nuts
−8 bees	7 roses	6 frogs	1 gun	3 nuts

8 plums	8 hogs	8 sheep	8 knives	7 chairs
−5 plums	4 hogs	2 sheep	6 knives	4 chairs

8	8	8	8	8	8	8	8	8	7
−1	2	3	4	5	6	7	8	0	3

6	6	7	6	5	6	7	5	7	6
−1	5	2	3	4	2	5	3	6	4

5	5	5	5	5	5	4	4	4	4
−1	2	3	4	0	5	1	2	3	4

Count by 2's to 100. Count to 40 in Romans.

Twelve things make one dozen.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Six things make a half-dozen.

★ ★ ★ ★ ★ ★

ADD.

11	1	10	2	9	3	8	4	7	5
+ 1	11	2	10	3	9	4	8	5	7
4	3	2	10	9	7	8	8	3	5
+ 8	9	10	1	2	3	3	2	4	3
1	7	9	8	3	8	3	10	5	7
+10	3	3	2	4	4	5	2	3	4
7	4	9	3	4	10	6	6	5	2
+ 5	4	2	9	8	1	6	5	7	5

11 + 1 =	7 + 5 =	5 + 5 =	5 + 7 =
1 + 11 =	5 + 7 =	6 + 6 =	1 + 11 =
10 + 2 =	6 + 6 =	4 + 4 =	8 + 3 =
2 + 10 =	8 + 2 =	3 + 3 =	4 + 8 =
9 + 3 =	3 + 4 =	2 + 2 =	3 + 5 =
3 + 9 =	5 + 6 =	5 + 3 =	9 + 3 =
8 + 4 =	7 + 3 =	3 + 9 =	7 + 2 =
4 + 8 =	8 + 4 =	7 + 4 =	8 + 4 =

TO BE READ.

17	14	92	88	19	40	96	35	86	95
10	83	60	76	11	33	75	29	72	66
26	16	73	58	9	98	23	30	43	96
18	52	15	13	53	86	100	28	21	45
20	27	55	22	37	18	17	93	57	38

$8-1=$	$8-0=$	$7-2=$	$7-6=$
$8-2=$	$7-3=$	$8-4=$	$8-2=$
$8-3=$	$6-4=$	$6-1=$	$7-5=$
$8-4=$	$4-3=$	$8-5=$	$5-4=$
$8-5=$	$5-2=$	$6-6=$	$8-5=$
$8-6=$	$7-3=$	$8-1=$	$6-2=$
$8-7=$	$6-5=$	$5-0=$	$8-7=$
$8-8=$	$7-4=$	$8-3=$	$7-3=$

$8-2=$	$5+5+1=$	$1+10+1=$
$4-3=$	$3+3+6=$	$2+9+1=$
$8-5=$	$1+9+1=$	$7+1+3=$
$7-3=$	$3+3+3=$	$6+5+1=$
$8-7=$	$2+2+2=$	$5+4+2=$
$7-4=$	$7+1+1=$	$4+2+6=$
$8-6=$	$8+2+2=$	$2+8+2=$
$6-3=$	$7+1+3=$	$6+3+3=$
$8-3=$	$2+2+8=$	$10+1+1=$
$8-4=$	$1+1+10=$	$1+0+11=$
$7-2=$	$4+5+1=$	$3+4+4=$

NOTE.—Drills should be given from the blackboard, in reading and writing numbers.

COPY AND COMPLETE.

9 chairs; take away 1 chair, leaves ___ ___.
9 slates; take away 2 slates, leaves ___ ___.
9 cups; take away 3 cups, leaves ___ ___.
9 tables; take away 4 tables, leaves ___ ___.
9 dishes; take away 5 dishes, leaves ___ ___.
9 pans; take away 6 pans, leaves ___ ___.
9 cans; take away 7 cans, leaves ___ ___.
9 knives; take away 8 knives, leaves ___ ___.
9 boxes; take away 9 boxes, leaves ___ ___.

SUBTRACT.

9 clocks	9 knives	9 cards	9 fish	9 frogs
−1 clock	2 knives	3 cards	4 fish	5 frogs
9 dresses	9 coats	9 roses	9 bees	8 flies
−6 dresses	7 coats	8 roses	9 bees	6 flies

9	9	9	9	9	9	9	0	9	9
−9	8	7	6	5	4	3	2	1	0
8	7	8	5	7	8	6	5	7	8
−5	3	2	3	4	3	4	2	5	2
9	6	4	7	9	9	9	9	8	9
−5	3	4	5	3	2	4	9	3	6

ADD.

4	9	3	7	6	7	8	1	5	8
4	2	3	2	3	0	2	5	2	3
+ 4	1	3	1	3	2	2	6	2	1
2	3	2	2	2	6	3	2	1	7
2	9	8	2	3	0	3	1	8	1
+ 2	0	2	5	2	6	4	9	3	4
1	2	1	11	7	3	8	1	1	3
10	8	9	0	2	2	2	9	2	2
+ 1	2	1	1	3	2	1	1	9	3
3	7	8	5	4	7	3	8	1	6
3	2	2	4	2	5	2	1	8	3
+ 6	2	2	2	6	0	6	3	3	2

$9 - 1 =$	$9 - 9 =$	$7 - 4 =$	$5 - 3 =$
$9 - 2 =$	$8 - 6 =$	$9 - 6 =$	$7 - 4 =$
$9 - 3 =$	$7 - 5 =$	$8 - 2 =$	$9 - 4 =$
$9 - 4 =$	$6 - 4 =$	$9 - 7 =$	$9 - 7 =$
$9 - 5 =$	$8 - 7 =$	$9 - 3 =$	$9 - 0 =$
$9 - 6 =$	$4 - 3 =$	$9 - 2 =$	$9 - 2 =$
$9 - 7 =$	$6 - 5 =$	$9 - 1 =$	$9 - 9 =$
$9 - 8 =$	$8 - 3 =$	$9 - 6 =$	$9 - 5 =$

In 9 there are ___ fours and ___ left over.
In 9 there is ___ six and ___ left over.

Count by 3's to 39. Count by 4's to 16.

In 10 there are —— twos.
In 10 there are —— fives.
In 9 there are —— threes.
In 11 there are —— ones.
In 12 there are —— twos.
In 12 there are —— threes.
In 12 there are —— fours.
In 12 there are —— sixes.
In 8 there are —— fours.
In 8 there are —— twos.
In 6 there are —— threes.
In 6 there are —— twos.

Count by 3's to 42. Count by 4's to 20.

$8 + 2 =$	$9 + 3 =$	$11 + 1 =$	$5 + 3 =$
$7 + 3 =$	$1 + 10 =$	$10 + 2 =$	$1 + 9 =$
$8 + 4 =$	$11 + 1 =$	$7 + 3 =$	$3 + 4 =$
$7 + 5 =$	$8 + 2 =$	$7 + 4 =$	$3 + 7 =$
$6 + 4 =$	$3 + 9 =$	$5 + 7 =$	$4 + 5 =$
$3 + 4 =$	$8 + 4 =$	$8 + 4 =$	$2 + 10 =$

$4 - 3 =$	$7 - 3 =$	$9 - 2 =$	$8 - 3 =$
$3 - 2 =$	$8 - 4 =$	$6 - 4 =$	$9 - 7 =$
$5 - 3 =$	$9 - 6 =$	$9 - 7 =$	$7 - 4 =$
$7 - 4 =$	$7 - 5 =$	$8 - 3 =$	$9 - 0 =$
$8 - 5 =$	$9 - 2 =$	$7 - 5 =$	$8 - 7 =$
$9 - 2 =$	$4 - 1 =$	$4 - 4 =$	$9 - 1 =$
$4 - 4 =$	$9 - 3 =$	$9 - 8 =$	$9 - 6 =$

1. If George had 9 birds and 4 flew away, how many would he have left?

2. If Nell had 7 dresses and gave 2 away, how many would she have left?

3. If Ned had 8 cows and sold 6, how many would he have left?

4. If James had 9 marbles and lost 7, how many would he have left?

5. If Mary had 7 dolls and gave 3 away, how many would she have left?

6. If Frank had 8 books and gave 5 to John, how many would he have left?

7. If a man had 9 sheep and 2 died, how many would he have left?

8. If May had 7 pet chickens and gave 4 to Nell, how many would she have left?

9. If Tom had 8 pencils and gave 3 to James, how many would he have left?

10. If Nat had 9 ducks and sold 5, how many would he have left?

11. If a man had 8 pigs and bought 4 more, how many would he have?

12. If Ann had 10 books and bought 1 more, how many would she have?

13. If Fred had 7 marbles and John gave him 3 more, how many would he have?

COPY AND COMPLETE.

10 ducks; take away 1 duck, leaves — —.
10 hens; take away 2 hens, leaves — —.
10 birds; take away 3 birds, leaves — —.
10 owls; take away 4 owls, leaves — —.
10 sheep; take away 5 sheep, leaves — —.
10 horses; take away 6 horses, leaves — —.
10 cows; take away 7 cows, leaves — —.
10 mules; take away 8 mules, leaves — —.
10 wagons; take away 9 wagons, leaves — —.
10 carts; take away 10 carts, leaves — —.

SUBTRACT.

10 coats	10 dresses	10 hats	10 caps	10 books
− 1 coat	2 dresses	3 hats	4 caps	5 books

10 slates	10 flags	10 fans	10 boys	10 girls
− 6 slates	7 flags	8 fans	9 boys	10 girls

10	10	10	10	10	10	10	10	10	10
− 8	3	10	9	5	7	6	1	4	2
9	8	7	6	7	8	9	4	6	9
− 3	5	4	3	5	2	7	4	2	2
10	9	10	8	10	7	10	9	10	7
− 1	5	3	1	8	2	6	2	8	5
9	10	8	10	9	10	7	10	9	10
− 9	7	0	10	3	9	6	4	2	5

ADD.

8	9	1	7	1	8	5	6	8	2
2	1	3	2	6	2	2	3	1	3
+2	1	8	3	3	1	1	3	0	5
3	2	1	8	4	2	4	7	2	4
3	4	2	1	4	3	5	2	3	4
+6	4	7	3	4	6	1	3	6	2
5	2	5	3	8	7	9	2	3	2
1	3	2	3	1	1	1	1	4	4
+6	5	4	6	1	4	1	9	5	5
4	3	7	8	1	3	7	4	2	9
2	3	1	2	3	2	2	4	7	1
+4	2	3	2	8	4	2	4	2	2

$10 - 10 =$	$10 - 7 =$	$9 - 7 =$	$10 - 5 =$
$10 - 2 =$	$10 - 3 =$	$6 - 4 =$	$8 - 3 =$
$10 - 1 =$	$9 - 4 =$	$7 - 2 =$	$10 - 1 =$
$10 - 7 =$	$8 - 2 =$	$10 - 6 =$	$8 - 6 =$
$10 - 9 =$	$7 - 5 =$	$9 - 2 =$	$10 - 2 =$
$10 - 5 =$	$10 - 2 =$	$10 - 3 =$	$9 - 7 =$
$10 - 8 =$	$9 - 6 =$	$10 - 8 =$	$10 - 3 =$
$10 - 6 =$	$7 - 4 =$	$10 - 7 =$	$9 - 4 =$

Count by 4's to 32. Count by 5's to 30.

COPY AND COMPLETE.

12 apples and 1 apple are —— apples.
11 nuts and 2 nuts are —— nuts.
10 roses and 3 roses are —— roses.
9 hats and 4 hats are —— hats.
8 tops and 5 tops are —— tops.
7 pencils and 6 pencils are —— pencils.
6 dolls and 7 dolls are —— dolls.
5 drums and 8 drums are —— drums.
4 flags and 9 flags are —— flags.
3 books and 10 books are —— books.
2 pens and 11 pens are —— pens.
1 tub and 12 tubs are —— tubs.

ADD.

12 bats	11 hens	10 caps	9 mats	8 boys
+ 1 bat	2 hens	3 caps	4 mats	5 boys
7 cents	5 girls	6 men	3 boats	4 rats
+ 6 cents	8 girls	7 men	10 boats	9 rats
10 pens	2 cats	1 dog	2 owls	9 bees
+ 3 pens	11 cats	12 dogs	10 owls	4 bees

12	9	11	10	7	5	6	8	3	4
+ 1	4	2	3	6	8	7	5	10	9
4	6	7	7	8	6	3	5	7	9
+ 5	6	5	2	3	7	2	4	4	2

COPY AND COMPLETE.

11 chairs; take away 1 chair, leaves — —.
11 beds; take away 2 beds, leaves — —.
11 tables; take away 3 tables, leaves — —.
11 wagons; take away 4 wagons, leaves — —.
11 carts; take away 5 carts, leaves — —.
11 boxes; take away 6 boxes, leaves — —.
11 pans; take away 7 pans, leaves — —.
11 cards; take away 8 cards, leaves — —.
11 cans; take away 9 cans, leaves — — .
11 drums; take away 10 drums, leaves — —.
11 flags; take away 11 flags, leaves — —.

SUBTRACT.

11 cows	11 pigs	11 hogs	11 horses
−10 cows	11 pigs	9 hogs	1 horse
11 hens	11 birds	11 rats	11 dogs
− 3 hens	5 birds	4 rats	6 dogs
11 cats	11 bats	11 owls	11 ducks
− 8 cats	2 bats	1 owl	11 ducks

11	11	11	11	11	11	11	11	11	11
− 7	2	3	5	4	1	10	5	11	9
11	11	11	11	10	10	10	10	10	10
− 8	6	0	2	8	4	9	10	7	6

12 + 1 =	7 + 6 =	10 + 3 =	8 + 4 =
9 + 4 =	2 + 11 =	6 + 7 =	3 + 10 =
11 + 2 =	4 + 9 =	4 + 5 =	9 + 4 =
7 + 4 =	2 + 8 =	5 + 8 =	7 + 3 =
10 + 3 =	8 + 5 =	2 + 10 =	6 + 7 =
8 + 4 =	7 + 3 =	7 + 6 =	2 + 9 =
10 + 2 =	4 + 6 =	11 + 2 =	7 + 4 =
8 + 5 =	1 + 12 =	3 + 4 =	2 + 11 =

10 − 1 =	10 − 9 =	11 − 1 =	11 − 8 =
10 − 2 =	10 − 10 =	11 − 0 =	11 − 9 =
10 − 3 =	10 − 0 =	11 − 2 =	11 − 10 =
10 − 4 =	9 − 5 =	11 − 3 =	11 − 11 =
10 − 5 =	7 − 2 =	11 − 4 =	6 − 4 =
10 − 6 =	8 − 6 =	11 − 5 =	9 − 7 =
10 − 7 =	9 − 3 =	11 − 6 =	8 − 3 =
10 − 8 =	8 − 2 =	11 − 7 =	6 − 2 =

6 − 5 =	11 − 2 =	9 − 3 =	11 − 5 =
7 − 2 =	10 − 9 =	11 − 11 =	10 − 3 =
7 − 3 =	11 − 6 =	10 − 4 =	11 − 11 =
10 − 6 =	10 − 4 =	11 − 9 =	10 − 8 =
11 − 7 =	11 − 8 =	10 − 6 =	11 − 1 =
9 − 5 =	10 − 7 =	11 − 8 =	10 − 6 =
8 − 1 =	11 − 3 =	10 − 1 =	11 − 0 =
7 − 5 =	10 − 2 =	11 − 7 =	10 − 9 =

In 12 there are —— threes.
In 12 there are —— fours.
In 13 there are —— fours and —— left over.

1. If Nat had 11 ducks and sold 8, how many would he have left?

2. If Mary had 10 birds and 6 flew away, how many would she have left?

3. If a man had 11 cows and sold 4, how many would he have left?

4. If Nell had 10 cents and spent 5, how much would she have left?

5. John had 6 marbles and he bought 7 more; how many did he then have?

6. Ann had 11 paper dolls and she lost 6; how many did she then have?

7. James had 10 cents and he spent 7; how much did he have left?

8. Grace had 11 paper dolls and she gave 3 to Nell; how many did she have left?

9. My mamma had 10 chairs and Santa Claus brought her 3 more; how many has she now?

10. A man had 8 horses and he bought 4 more; how many did he then have?

11. A girl had 7 books and her mamma gave her 6 more; how many did she then have?

ADD.

13 clocks	12 watches	11 pencils	10 fans
+ 1 clock	2 watches	3 pencils	4 fans
9 roses	8 plums	7 flowers	6 tops
+ 5 roses	6 plums	7 flowers	8 tops
5 sleds	4 chairs	3 tables	2 tubs
+ 9 sleds	10 chairs	11 tables	12 tubs
1 pen	7 balls	9 books	6 guns
+13 pens	6 balls	4 books	5 guns

12	13	10	13	9	8	7	6	5
+ 2	3	4	1	5	6	7	8	9
4	3	2	7	10	11	9	8	8
+10	11	12	7	4	3	4	4	3

9 + 5 =	4 + 10 =	7 + 7 =	6 + 3 =
13 + 1 =	3 + 11 =	12 + 2 =	11 + 3 =
10 + 4 =	2 + 12 =	9 + 5 =	6 + 8 =
11 + 3 =	1 + 13 =	7 + 3 =	7 + 4 =
8 + 6 =	7 + 6 =	8 + 2 =	10 + 1 =
7 + 7 =	10 + 4 =	7 + 6 =	10 + 4 =
6 + 8 =	9 + 3 =	8 + 6 =	12 + 2 =
5 + 9 =	8 + 6 =	10 + 4 =	9 + 4 =

ADD.

6	7	4	3	3	8	1	8	9
3	6	4	3	4	1	5	2	3
+3	1	5	7	7	4	8	4	2
10	11	7	3	8	9	3	4	8
2	1	6	4	2	1	7	3	4
+ 2	2	1	6	3	4	3	7	2
2	1	6	8	7	2	3	4	7
2	1	3	2	2	2	3	4	0
+9	12	5	1	3	2	3	4	7
6	5	4	3	10	4	1	2	11
6	5	4	3	2	3	1	5	1
+2	4	6	8	2	2	12	6	2
1	2	3	4	2	7	1	8	7
1	2	3	4	1	2	1	3	4
1	2	3	4	3	1	8	1	2
+1	2	3	2	3	4	3	2	1
3	1	2	6	3	2	4	1	4
3	2	1	2	4	4	2	2	6
3	1	3	1	4	2	4	1	1
+1	3	4	3	3	2	4	2	1

SUBTRACT.

11	10	9	10	11	7	10	11	10
− 7	5	6	8	6	4	8	3	4

SUBTRACT.

12 cards	12 books	12 slates	12 pens
− 1 card	2 books	3 slates	4 pens
12 sleds	12 chairs	12 pencils	12 girls
− 5 sleds	6 chairs	7 pencils	8 girls
12 men	12 boys	12 hats	12 caps
− 9 men	10 boys	11 hats	12 caps

12	12	12	12	12	12	12	12
− 4	6	1	5	7	2	10	3
12	12	12	12	11	11	11	10
−11	8	4	9	8	3	5	6
10	11	10	11	12	12	12	12
− 7	6	2	3	8	2	7	3

12 − 1 =	12 − 9 =	10 − 6 =	12 − 10 =
12 − 3 =	12 − 10 =	11 − 9 =	12 − 3 =
12 − 2 =	12 − 11 =	10 − 4 =	12 − 1 =
12 − 4 =	12 − 12 =	11 − 8 =	12 − 10 =
12 − 5 =	12 − 0 =	10 − 5 =	12 − 6 =
12 − 6 =	11 − 8 =	12 − 4 =	12 − 5 =
12 − 7 =	11 − 1 =	12 − 9 =	12 − 7 =
12 − 8 =	11 − 10 =	12 − 3 =	12 − 4 =

SECTION III.

ADDITION FROM 1 TO 20; SUBTRACTION FROM 1 TO 18; MULTIPLICATION FROM 1 TO 15.

LESSON I.

2 times 1 box are —— boxes.
2 times 2 hats are —— hats.
2 times 3 coats are —— coats.
2 times 4 flags are —— flags.
2 times 5 books are —— books.
2 times 6 pens are —— pens.
3 times 2 caps are —— caps.

MULTIPLY.

2 cups		3 balls		2 fans		2 pans		4 cans	
×2		2		3		1		2	
2 dolls		5 bats		2 tops		3 pens		1 card	
×4		2		5		2		2	
2	1	2	2	1	2	1	3	1	5
×3	3	5	2	5	4	4	3	6	2

ADD.

3	3	1	8	6	4	3	3	2	6
4	2	2	1	3	2	3	6	5	1
+7	6	3	1	3	4	7	5	4	7

Explain the use of the *multiplication* sign.

SUBTRACT.

13	13	13	13	13	13	13	13	13	13
− 1	2	3	4	5	6	7	8	9	10
13	13	13	13	12	10	11	12	10	11
−11	12	13	0	2	7	10	8	5	6
10	11	10	11	10	13	13	13	13	13
− 3	4	9	7	2	6	4	13	2	5
9	10	8	13	12	10	9	7	8	9
− 3	2	3	8	6	7	2	3	5	4

ADD.

6	4	3	5	2	7	8	9	10	11
+ 6	4	3	5	2	7	2	3	2	3
10	9	7	11	10	8	7	10	8	7
+ 3	4	4	3	4	3	6	3	5	5

$13 - 1 =$	$13 - 9 =$	$1 \times 2 =$	$9 + 3 =$
$13 - 2 =$	$13 - 10 =$	$2 \times 2 =$	$10 + 4 =$
$13 - 3 =$	$13 - 11 =$	$3 \times 2 =$	$11 + 3 =$
$13 - 4 =$	$13 - 12 =$	$4 \times 2 =$	$7 + 7 =$
$13 - 5 =$	$13 - 13 =$	$5 \times 2 =$	$9 + 5 =$
$13 - 6 =$	$13 - 0 =$	$3 \times 1 =$	$8 + 3 =$
$13 - 7 =$	$12 - 7 =$	$2 \times 3 =$	$6 + 7 =$
$13 - 8 =$	$11 - 8 =$	$2 \times 4 =$	$8 + 6 =$

$\frac{1}{2}$ of 4 apples is —— apples.
$\frac{1}{2}$ of 6 oranges is —— oranges.
$\frac{1}{2}$ of 8 books is —— books.
$\frac{1}{2}$ of 10 cards is —— cards.
$\frac{1}{2}$ of 12 eggs is —— eggs.

In 2 there are —— ones.
In 4 there are —— twos.
In 6 there are —— threes.
In 6 there are —— twos.
In 8 there are —— fours.
In 8 there are —— twos.
In 9 there are —— threes.
In 10 there are —— twos.
In 10 there are —— fives.
In 12 there are —— twos.
In 12 there are —— threes.
In 12 there are —— fours.
In 12 there are —— sixes.
In 14 there are —— twos.
In 14 there are —— sevens.

$9 + 5 =$	$2 \times 3 =$	$13 - 7 =$	$4 + 4 =$
$6 + 7 =$	$4 \times 2 =$	$13 - 2 =$	$9 - 3 =$
$8 + 3 =$	$3 \times 1 =$	$13 - 4 =$	$2 \times 4 =$
$9 + 4 =$	$2 \times 4 =$	$13 - 8 =$	$6 - 3 =$

NOTE.—Illustrate $\frac{1}{2}$ by objects; also, require the children to do so.

ADD.

14	13	12	11	10	9	8	7	6	5
+ 1	2	3	4	5	6	7	8	9	10
4	3	2	1	7	6	4	6	8	8
+11	12	13	14	7	8	9	7	4	6
7	9	11	8	3	5	4	7	2	10
+ 6	4	3	7	4	3	5	3	7	4
10	11	6	14	12	8	9	6	6	7
+ 3	2	9	1	3	7	5	8	4	3

SUBTRACT.

6	7	5	8	9	10	11	12	13	13
− 3	4	3	5	4	7	6	8	9	4
11	11	11	11	11	11	11	11	11	11
− 1	2	3	4	5	6	7	8	9	10
12	12	12	12	12	12	12	12	12	12
− 2	3	4	5	6	7	8	9	10	11

14 + 1 =	7 + 8 =	7 + 7 =	13 + 2 =
13 + 2 =	6 + 9 =	6 + 6 =	9 + 4 =
12 + 3 =	5 + 10 =	4 + 4 =	6 + 9 =
11 + 4 =	4 + 11 =	3 + 3 =	8 + 7 =
10 + 5 =	3 + 12 =	2 + 2 =	8 + 3 =
9 + 6 =	2 + 13 =	7 + 6 =	4 + 11 =
8 + 7 =	1 + 14 =	8 + 6 =	9 + 3 =

5 times 2 cents are —— cents.
4 times 2 boys are —— boys.
3 times 2 girls are —— girls.
2 times 6 eggs are —— eggs.
2 times 7 hens are —— hens.
2 times 4 nests are —— nests.

MULTIPLY.

5 cents	4 tops	7 pens	6 ducks	3 tubs
×2	2	2	2	2
1 bed	2 rats	2 bats	2 clocks	2 hats
×4	4	5	6	7

ADD.

7	6	5	4	3	2	1	1	9	10
7	6	5	4	3	2	3	1	1	2
+1	3	5	7	9	11	7	13	2	3
5	2	11	2	4	10	2	4	1	8
4	3	3	6	3	2	6	3	7	3
+6	10	2	4	6	3	7	3	6	4

13 − 9 =	5 × 2 =	2 × 6 =	8 + 7 =
11 − 6 =	6 × 2 =	2 × 7 =	7 + 6 =
13 − 3 =	7 × 2 =	2 × 4 =	9 + 5 =
12 − 8 =	4 × 2 =	2 × 3 =	6 + 9 =
13 − 10 =	3 × 2 =	2 × 5 =	10 + 5 =
11 − 4 =	2 × 2 =	1 × 4 =	12 + 3 =
13 − 8 =	2 × 5 =	3 × 1 =	7 + 8 =

ADD.

15	14	13	12	11	10	9	8	7	6
+ 1	2	3	4	5	6	7	8	9	10
5	4	3	2	1	8	7	9	7	10
+11	12	13	14	15	7	6	6	3	5
9	7	8	7	8	7	9	10	10	14
+ 6	3	4	9	8	8	7	6	4	2
10	9	12	3	13	8	4	7	8	8
+ 6	3	4	7	3	3	12	9	4	8

SUBTRACT.

13	13	13	13	13	13	13	13	13	13
−13	7	2	1	0	3	5	10	4	11
13	13	13	12	12	12	12	12	12	12
− 8	12	9	0	8	11	7	12	2	3
12	12	12	12	12	12	10	10	10	10
− 9	1	10	5	0	6	8	7	3	6

15 + 1 =	8 + 8 =	1 + 15 =	12 × 1 =
14 + 2 =	7 + 9 =	13 − 2 =	2 × 6 =
13 + 3 =	6 + 10 =	7 − 3 =	7 × 2 =
12 + 4 =	5 + 11 =	12 − 9 =	1 × 10 =
11 + 5 =	4 + 12 =	11 − 6 =	9 × 1 =
10 + 6 =	3 + 13 =	10 − 8 =	5 × 2 =
9 + 7 =	2 + 14 =	13 − 6 =	4 × 2 =

1. If James had 7 marbles and bought 6 more, how many would he have?

2. If May had 12 paper dolls and gave 8 to Nell, how many would she have left?

3. If Ann had 9 books and her papa gave her 5 more, how many would she have?

4. If Tom had 13 ducks and sold 8, how many would he have left?

5. A man had 8 cows and he bought 7 more; how many did he then have?

6. May had 13 birds and 5 flew away; how many were left?

7. John had 10 hens and he bought 6 more; how many did he then have?

8. Nat had 13 marbles and he lost 2; how many did he have left?

9. Frank had 12 pet chickens and 3 died; how many were left?

10. Grace had 12 paper fans and she made 2 more; how many did she then have?

11. Fred had 13 apples in a basket and he ate 3; how many were left?

12. My mamma had 8 chairs and she bought 8 more; how many did she then have?

SUBTRACT.

14	14	14	14	14	14	14	14	14	14
− 1	2	3	4	5	6	7	8	9	10
14	14	14	14	14	13	13	13	13	13
−11	12	13	14	0	7	10	12	8	6
12	13	10	13	12	14	14	14	14	14
− 4	9	8	3	3	6	4	8	2	1
14	14	13	12	14	12	13	13	10	12
− 9	12	10	2	5	11	12	7	6	9

ADD.

9	8	9	7	8	7	6	7	9	9
+ 7	8	4	9	6	7	6	8	5	6
10	3	7	11	15	8	4	12	9	8
+ 6	12	8	5	1	3	5	4	3	6

$14 - 1 =$	$14 - 9 =$	$12 - 6 =$	$1 \times 2 =$
$14 - 2 =$	$14 - 10 =$	$13 - 7 =$	$3 \times 2 =$
$14 - 3 =$	$14 - 11 =$	$9 - 5 =$	$2 \times 4 =$
$14 - 4 =$	$14 - 12 =$	$10 - 8 =$	$5 \times 2 =$
$14 - 5 =$	$14 - 13 =$	$12 - 4 =$	$2 \times 6 =$
$14 - 6 =$	$14 - 14 =$	$11 - 3 =$	$7 \times 2 =$
$14 - 7 =$	$14 - 0 =$	$12 - 2 =$	$8 \times 2 =$
$14 - 8 =$	$13 - 2 =$	$10 - 7 =$	$2 \times 2 =$

ADD.

16	15	14	13	12	11	10	9	8
+ 1	2	3	4	5	6	7	8	9
7	6	5	4	3	2	1	8	7
+10	12	12	13	14	15	16	8	9
6	7	6	7	9	7	10	9	8
+ 9	7	8	6	6	9	6	6	5
8	4	8	5	6	4	6	9	7
+ 6	3	2	4	3	6	5	2	4

SUBTRACT.

13	13	14	14	12	10	11	14	12
− 7	6	7	4	8	6	9	8	4
12	14	9	10	14	14	10	12	13
− 3	10	6	2	11	13	3	2	7
14	13	14	14	14	12	14	14	14
−14	0	1	3	10	11	7	6	3

$16 + 1 =$	$10 + 7 =$	$4 + 13 =$	$14 - 7 =$
$15 + 2 =$	$9 + 8 =$	$3 + 14 =$	$13 - 2 =$
$14 + 3 =$	$8 + 9 =$	$2 + 15 =$	$4 \times 2 =$
$13 + 4 =$	$7 + 10 =$	$1 + 16 =$	$2 \times 5 =$
$12 + 5 =$	$6 + 11 =$	$7 + 7 =$	$14 - 3 =$
$11 + 6 =$	$5 + 12 =$	$8 + 8 =$	$7 \times 2 =$

United States Money.

10 cents make 1 dime (d.).
10 dimes make 1 dollar ($).

1. How many cents in a five-cent piece?
2. How many cents in a dime?
3. How many dimes in a dollar?
4. How many quarters in a dollar?
5. How many five-cent pieces in a dime?
6. How many five-cent pieces in a quarter?
7. How many quarters in fifty cents?
8. How many fifty-cent pieces in a dollar?
9. How many dimes make 50 cents?
10. How many five-cent pieces in 50 cents?
11. Name all the pieces of money you know.
12. Nell had 2 dimes; how many cents did she have?
13. If Nat had 5 five-cent pieces, how much money would he have?
14. Ann had a quarter and she spent 15 cents; how much had she left?

Note.—The teacher should have real coins for this lesson. This table could not be illustrated, owing to the late law of Congress which forbids a print illustrating U. S. coins.

1. How many cents in a dime?

2. How many quarters in a half-dollar?

3. How many fifty-cent pieces in a dollar?

4. How many dimes in a half-dollar?

5. Mary had 5 dimes and she spent 3 dimes; how many had she left?

6. Nat had 10 cents and he spent 5 cents; what had he left?

7. If John had 3 five-cent pieces, how many cents would he have?

8. Tom had 14 cents and he spent 4 cents; what had he left?

9. If Nell had 2 five-cent pieces, how many cents would she have?

10. Ann had 15 cents and she spent a dime for a book; how much had she left?

11. If Frank had a half-dollar, how many quarters could he get for it?

12. May had 15 cents, and she bought a slate and paid 10 cents for it; how much had she left?

13. James had 3 quarters and his mamma gave him 1 more; how many did he then have?

SUBTRACT.

15	15	15	15	15	15	15	15	15
− 1	2	3	4	5	6	7	8	9
15	15	15	15	15	15	15	14	14
−10	11	12	13	14	15	0	7	10
14	13	14	13	14	13	14	15	15
−13	3	8	10	9	4	2	6	5
15	12	13	15	15	15	15	12	12
− 2	7	11	9	4	3	7	4	10

ADD.

4	3	2	5	6	7	8	6	3
4	3	2	5	6	7	8	3	2
4	3	2	3	2	1	0	5	4
+4	3	2	2	2	1	0	1	3
8	5	6	4	2	3	2	4	5
4	2	3	3	8	5	3	5	4
2	3	3	3	5	4	4	3	3
+2	4	1	4	1	4	4	3	4

$1 + 1 =$	$5 + 5 =$	$7 + 7 =$	$6 - 3 =$
$1 \times 2 =$	$5 \times 2 =$	$7 \times 2 =$	$8 + 8 =$
$3 + 3 =$	$6 + 6 =$	$14 - 7 =$	$8 \times 2 =$
$3 \times 2 =$	$6 \times 2 =$	$10 - 5 =$	$16 - 8 =$
$4 + 4 =$	$2 + 2 =$	$12 - 6 =$	$13 - 7 =$
$4 \times 2 =$	$2 \times 2 =$	$8 - 4 =$	$14 - 9 =$

ADD.

17	16	15	14	13	12	11	10	9
+ 1	2	3	4	5	6	7	8	9
8	7	6	5	4	3	2	1	18
+10	11	12	13	14	15	16	17	0
5	6	7	8	9	3	8	8	7
+ 5	6	7	8	9	9	9	6	9
9	6	8	9	8	9	10	14	13
+ 8	9	7	6	6	7	6	3	4

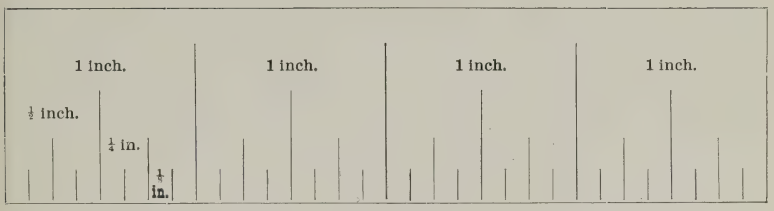
$5 + 5 =$	$1 + 1 =$	$2 + 2 + 2 =$	$17 + 1 =$
$5 \times 2 =$	$1 \times 2 =$	$3 \times 2 =$	$16 + 2 =$
$4 + 4 =$	$6 + 6 =$	$1 + 1 + 1 =$	$15 + 3 =$
$4 \times 2 =$	$6 \times 2 =$	$3 \times 1 =$	$14 + 4 =$
$3 + 3 =$	$7 + 7 =$	$3 + 3 + 3 =$	$13 + 5 =$
$3 \times 2 =$	$7 \times 2 =$	$3 \times 3 =$	$12 + 6 =$
$2 + 2 =$	$8 + 8 =$	$4 + 4 + 4 =$	$11 + 7 =$
$2 \times 2 =$	$8 \times 2 =$	$3 \times 4 =$	$10 + 8 =$

$9 + 9 =$	$5 + 13 =$	$1 + 17 =$	$15 - 9 =$
$8 + 10 =$	$4 + 14 =$	$18 + 0 =$	$15 - 6 =$
$7 + 11 =$	$3 + 15 =$	$15 - 7 =$	$15 - 3 =$
$6 + 12 =$	$2 + 16 =$	$14 - 8 =$	$15 - 5 =$

MULTIPLY.

8	2	2	7	2	2	3	4	3	4
×2	9	4	2	6	5	5	5	6	4

LONG MEASURE.



12 inches (in.) make 1 foot (ft.).
3 feet (ft.) make 1 yard (yd.).

1. Show 1 inch on the foot rule; show 2 inches; show 3 inches; show 6 inches.

2. Draw lines on the blackboard, as near as you can, 1 inch, 6 inches and 12 inches long, and then measure the lines.

3. Measure and learn how many inches wide and long your reader is.

4. Measure your slate, and tell how long and how wide it is.

5. ½ of a foot is —— inches.

6. 1 yard is —— feet.

7. ½ yard is —— inches.

8. What is measured by the foot?

9. What is measured by the yard?

NOTE.—The *foot* and *yard rule* should be in the school-room for use. Illustrate ½ by objects, etc.

SUBTRACT.

16	16	16	16	16	16	16	16	16
− 1	2	3	4	5	6	7	8	9
16	16	16	16	16	16	16	16	15
−10	11	12	13	14	15	16	0	9
15	14	15	14	13	15	14	15	16
−10	7	5	9	8	6	8	7	8
16	16	16	15	16	15	14	16	15
− 9	7	6	14	5	3	7	9	10

ADD.

4	5	6	5	6	3	7	9	3
4	5	6	5	6	3	7	2	6
+4	5	6	8	4	3	4	7	9
9	2	3	5	6	7	6	5	3
3	2	3	5	4	7	6	4	6
6	2	3	4	4	2	3	2	4
+0	2	3	4	4	2	3	7	5

$16 - 1 =$	$16 - 7 =$	$16 - 13 =$	$9 + 9 =$
$16 - 2 =$	$16 - 8 =$	$16 - 14 =$	$8 + 8 =$
$16 - 3 =$	$16 - 9 =$	$16 - 15 =$	$9 \times 2 =$
$16 - 4 =$	$16 - 10 =$	$16 - 16 =$	$8 \times 2 =$
$16 - 5 =$	$16 - 11 =$	$16 - 0 =$	$15 - 9 =$
$16 - 6 =$	$16 - 12 =$	$15 - 7 =$	$15 - 5 =$

ADD.

18	17	16	15	14	13	12	11	10
+ 1	2	3	4	5	6	7	8	9
9	8	7	6	5	4	3	2	1
+10	11	12	13	14	15	16	17	18

$12 - 6 =$	$14 - 7 =$	$16 - 7 =$	$15 - 6 =$
$10 - 5 =$	$13 - 8 =$	$15 - 6 =$	$16 - 8 =$
$9 - 6 =$	$16 - 7 =$	$14 - 8 =$	$16 - 7 =$
$11 - 8 =$	$16 - 9 =$	$16 - 9 =$	$14 - 9 =$
$16 - 7 =$	$14 - 8 =$	$15 - 8 =$	$14 - 6 =$
$16 - 8 =$	$13 - 4 =$	$16 - 7 =$	$14 - 5 =$

$18 + 1 =$	$12 + 7 =$	$6 + 13 =$	$9 + 6 =$
$17 + 2 =$	$11 + 8 =$	$5 + 14 =$	$8 + 7 =$
$16 + 3 =$	$10 + 9 =$	$4 + 15 =$	$5 + 9 =$
$15 + 4 =$	$9 + 10 =$	$3 + 16 =$	$9 + 7 =$
$14 + 5 =$	$8 + 11 =$	$2 + 17 =$	$8 + 9 =$
$13 + 6 =$	$7 + 12 =$	$1 + 18 =$	$9 + 9 =$

$5 + 5 + 5 =$		$3 \times 2 =$	$1 + 1 + 1 =$
$3 \times 5 =$	$2 + 2 + 2 + 2 =$		$3 \times 1 =$
$6 + 6 + 6 =$		$4 \times 2 =$	$4 + 4 + 4 =$
$3 \times 6 =$	$3 + 3 + 3 + 3 =$		$3 \times 4 =$
$4 + 4 + 4 =$		$4 \times 3 =$	$3 + 3 + 3 =$
$3 \times 4 =$	$4 + 4 + 4 + 4 =$		$3 \times 3 =$
$2 + 2 + 2 =$		$4 \times 4 =$	$8 \times 2 =$

SUBTRACT.

17	17	17	17	17	17	17	17	17
− 1	2	3	4	5	6	7	8	9
17	17	17	17	17	17	17	17	17
−10	11	12	13	14	15	16	17	0
16	15	16	15	16	15	16	15	14
− 9	8	7	9	8	5	10	7	8
17	13	14	17	15	13	17	16	14
− 9	8	9	8	9	7	8	9	6

ADD.

9	8	7	5	9	7	9	8	6
+ 8	8	9	8	5	8	7	9	7
7	9	8	5	6	8	6	8	9
+ 7	9	9	9	8	5	9	6	8
6	4	9	6	7	9	9	9	8
+ 7	5	6	8	9	8	7	9	8

$17 - 1 =$	$17 - 7 =$	$17 - 13 =$	$5 \times 2 =$
$17 - 2 =$	$17 - 8 =$	$17 - 14 =$	$6 \times 2 =$
$17 - 3 =$	$17 - 9 =$	$17 - 15 =$	$4 \times 2 =$
$17 - 4 =$	$17 - 10 =$	$17 - 16 =$	$8 \times 2 =$
$17 - 5 =$	$17 - 11 =$	$17 - 17 =$	$7 \times 2 =$
$17 - 6 =$	$17 - 12 =$	$17 - 0 =$	$3 \times 2 =$

1. John had 17 cents and he paid 15 cents for a slate; how much had he left?

2. May had 4 quarters and she spent 2 for a dress; what had she left?

3. Nat had 16 eggs and he sold half of them; how many were left?

4. How many eggs in a dozen and a half?

5. How many inches in a foot?

6. How many feet in a yard?

7. How many inches in a foot and a half?

8. How many half-inches in 1 inch?

9. Nell bought 2 yds. of ribbon; how many feet of ribbon did she get?

10. In 3 yards there are —— feet.

11. In 4 yards there are —— feet.

12. In 5 yards there are —— feet.

13. 1 boy has —— hands.

14. 2 boys have —— hands.

15. 3 girls have —— feet.

16. 4 birds have —— wings.

17. 5 boys have —— eyes.

18. 6 girls have —— eyes.

19. 7 horses have —— ears.

20. 8 cows have —— ears.

21. 3 dogs have —— feet.

22. 4 cows have —— feet.

ADD.

19	18	17	16	15	14	13	12	11
+ 1	2	3	4	5	6	7	8	9
10	9	8	7	6	5	4	3	2
+10	11	12	13	14	15	16	17	18
1	9	8	9	8	7	7	8	7
+19	6	7	9	8	7	9	6	8
6	8	6	7	5	9	9	7	9
+ 7	9	9	8	9	7	8	6	9

ADD.

2	3	4	1	3	7	8	9	5
2	3	4	1	2	7	8	9	4
2	3	4	6	5	3	1	1	9
2	3	4	6	5	2	1	1	2
+2	3	4	6	5	1	1	0	0

19 + 1 =	14 + 6 =	9 + 11 =	4 + 16 =
18 + 2 =	13 + 7 =	8 + 12 =	3 + 17 =
17 + 3 =	12 + 8 =	7 + 13 =	2 + 18 =
16 + 4 =	11 + 9 =	6 + 14 =	1 + 19 =
15 + 5 =	10 + 10 =	5 + 15 =	9 + 9 =

NOTE.— Explanation and much drill-work should be given when beginning to add and carry. A lesson in adding and carrying should be given from the blackboard by the teacher before giving the lesson in the book.

SUBTRACT.

18	18	18	18	18	18	18	18	18
− 1	2	3	4	5	6	7	8	9
18	18	18	18	18	18	18	18	18
−10	11	12	13	14	15	16	17	18
17	16	15	14	13	16	15	17	17
− 9	7	9	8	6	8	6	8	5

Count by 2's to 100.
Write to 100.
Count by 10's to 50.
Count by 3's to 42.
Count by 4's to 40.
Count by 5's to 50.

18 − 1 =	18 − 8 =	18 − 15 =	15 − 7 =
18 − 2 =	18 − 9 =	18 − 16 =	16 − 9 =
18 − 3 =	18 − 10 =	18 − 17 =	14 − 8 =
18 − 4 =	18 − 11 =	18 − 18 =	13 − 7 =
18 − 5 =	18 − 12 =	18 − 0 =	16 − 8 =
18 − 6 =	18 − 13 =	16 − 8 =	16 − 7 =
18 − 7 =	18 − 14 =	17 − 9 =	15 − 9 =

4 × 3 =	9 + 9 =	3 × 4 =	1 × 7 =
6 × 3 =	9 × 2 =	2 × 4 =	1 × 8 =
7 × 2 =	2 × 3 =	4 × 4 =	1 × 9 =
8 + 8 =	3 × 3 =	1 × 5 =	7 × 2 =
8 × 2 =	5 × 3 =	2 × 6 =	8 × 2 =

SECTION IV.

ADDITION TO 20; SUBTRACTION TO 20;
MULTIPLICATION TO 20;
DIVISION TO 20.

LESSON I.

In 2 there are —— ones.
In 3 there are —— ones.
In 4 there are —— twos.
In 6 there are —— threes.
In 6 there are —— twos.
In 8 there are —— fours.
In 8 there are —— twos.
In 9 there are —— threes.
In 10 there are —— twos.
In 10 there are —— fives.
In 12 there are —— sixes.
In 12 there are —— twos.
In 12 there are —— threes.
In 12 there are —— fours.
In 14 there are —— twos.
In 14 there are —— sevens.
In 15 there are —— fives.
In 15 there are —— threes.

$2 \div 1 =$	$4 \div 2 =$	$6 \div 2 =$	$5 \div 1 =$
$3 \div 1 =$	$6 \div 3 =$	$4 \div 1 =$	$8 \div 4 =$

NOTE.—Explain the use of the *division* sign, and illustrate division by objects.

$2+2+2+2+2=$	$2\div1=$	$8\div4=$
$5\times2=$	$4\div2=$	$8\div2=$
$3+3+3+3+3=$	$6\div3=$	$9\div3=$
$5\times3=$	$6\div2=$	$10\div2=$
$4+4+4+4+4=$	$6\div6=$	$10\div5=$
$5\times4=$	$4\div1=$	$12\div6=$
$5+5+5+5=$	$4\div4=$	$12\div4=$
$4\times5=$	$7\div1=$	$12\div3=$

$$2+2+2+2+2+2=$$
$$6\times2=$$
$$2+2+2+2+2+2+2=$$
$$7\times2=$$
$$2+2+2+2+2+2+2+2=$$
$$8\times2=$$
$$2+2+2+2+2+2+2+2+2=$$
$$9\times2=$$

SUBTRACT.

19	19	19	19	19	19	19	19	19
− 1	2	3	4	5	6	7	8	9
19	19	19	19	19	19	19	19	19
−10	11	12	13	14	15	16	17	18
19	19	18	16	14	15	13	17	17
−19	0	9	8	7	9	7	8	9

In 3 there is 1 two and —— left over.
In 5 there are —— twos and —— left over.
In 7 there are —— threes and —— left over.
In 7 there are —— twos and —— left over.
In 8 there is —— six and —— left over.
In 6 there is —— five and —— left over.

19 − 1 =	19 − 9 =	19 − 17 =	8 + 9 =
19 − 2 =	19 − 10 =	19 − 18 =	5 × 2 =
19 − 3 =	19 − 11 =	19 − 19 =	4 ÷ 2 =
19 − 4 =	19 − 12 =	19 − 0 =	8 ÷ 4 =
19 − 5 =	19 − 13 =	18 − 9 =	6 × 2 =
19 − 6 =	19 − 14 =	17 − 8 =	8 + 8 =
19 − 7 =	19 − 15 =	17 − 9 =	8 × 2 =
19 − 8 =	19 − 16 =	16 − 7 =	6 ÷ 3 =

6 ÷ 3 =	5 + 5 =	4 × 2 =	12 ÷ 3 =
4 ÷ 1 =	5 × 2 =	6 × 2 =	7 + 7 =
6 ÷ 2 =	6 + 6 =	2 × 3 =	7 × 2 =
8 ÷ 4 =	6 × 2 =	2 × 4 =	14 ÷ 7 =
8 ÷ 2 =	9 + 9 =	10 ÷ 2 =	14 ÷ 2 =
6 ÷ 6 =	9 × 2 =	10 ÷ 5 =	15 ÷ 5 =
4 ÷ 2 =	8 + 8 =	12 ÷ 6 =	15 ÷ 3 =
9 ÷ 3 =	8 × 2 =	12 ÷ 4 =	7 ÷ 1 =
12 ÷ 2 =	15 ÷ 5 =	7 + 7 =	5 + 5 =
14 ÷ 7 =	16 ÷ 2 =	8 + 8 =	6 + 6 =
14 ÷ 2 =	16 ÷ 8 =	10 + 10 =	4 + 4 =
15 ÷ 3 =	16 ÷ 4 =	9 + 9 =	9 + 11 =

6 boys have —— eyes.
3 girls have —— eyes.
4 men have —— feet.
5 boys have —— feet.
6 girls have —— hands.
7 owls have —— tails.
5 cows have —— ears.
1 spider has —— eyes.
2 spiders have —— eyes.
3 dogs have —— feet.
4 cats have —— feet.
6 birds have —— wings.
5 horses have —— legs.

There are —— eggs in 1 dozen.
There are —— inches in 1 foot.
There are —— eggs in 1 dozen and a half.
There are —— inches in $1\frac{1}{2}$ feet.
There are —— eggs in a half-dozen.
There are —— feet in 1 yard.
There are —— feet in 2 yards.
There are —— five-cent pieces in 1 dime.
There are —— cents in 1 dime.
There are —— quarters in 1 dollar.

NOTE.—The blanks to be filled with the correct figures—first written, and then orally.

4 horses have —— feet.
7 hens have —— wings.
6 ducks have —— feet.
7 cows have —— horns.
8 mules have —— ears.
5 pigs have —— feet.
6 birds have —— wings.
5 boys have —— hands.
6 men have —— hands.
5 horses have —— ears.
1 spider has —— legs.
2 spiders have —— legs.

1 slate and —— slate are 2 slates.
2 pens and —— pens are 4 pens.
3 balls and —— balls are 5 balls.
5 books and —— book are 6 books.
2 hats and —— hats are 7 hats.
3 fish and —— fish are 6 fish.
4 caps and —— caps are 7 caps.
5 fans and —— fans are 8 fans.
4 guns and —— guns are 8 guns.
6 flags and —— flags are 9 flags.
5 sleds and —— sleds are 9 sleds.
7 boys and —— boys are 9 boys.
1 girl and —— girls are 9 girls.

SUBTRACT.

20	20	20	20	20	20	20	20	20
− 1	2	3	4	5	6	7	8	9
20	20	20	20	20	20	20	20	20
−10	11	12	13	14	15	16	17	18
20	20	20	19	18	17	17	16	16
−19	20	0	9	9	8	9	7	9

ADD.

2	3	4	5	6	7	1	9	3
2	3	4	5	6	7	1	9	4
2	3	4	5	6	1	1	0	5
2	3	4	1	1	2	1	1	6
2	3	4	1	0	1	8	0	1
+2	3	0	2	1	2	8	1	1

There are —— times 2 apples in 4 apples.
There are —— times 3 eggs in 6 eggs.
There are —— times 2 pens in 6 pens.
There are —— times 4 cents in 8 cents.
There are —— times 2 bats in 8 bats.
There are —— times 3 boys in 9 boys.
There are —— times 2 girls in 10 girls.
There are —— times 5 cents in 10 cents.
There are —— times 6 cups in 12 cups.

NOTE.—Give explanation in subtracting when you must take one from the next higher; also some drill on the blackboard before giving the lesson in the book.

$2+2+2+2+2+2=$	$6\times 2=$
$3+3+3+3+3+3=$	$6\times 3=$
$4+4+4+4+4=$	$5\times 4=$
$5+5+5=$	$3\times 5=$

$4\div 2=$	$10\div 5=$	$15\div 3=$	$18\div 6=$
$6\div 3=$	$12\div 2=$	$15\div 5=$	$18\div 3=$
$6\div 2=$	$12\div 3=$	$16\div 2=$	$20\div 10=$
$8\div 4=$	$12\div 4=$	$16\div 8=$	$20\div 2=$
$8\div 2=$	$12\div 6=$	$16\div 4=$	$20\div 5=$
$9\div 3=$	$14\div 2=$	$18\div 9=$	$20\div 4=$
$10\div 2=$	$14\div 7=$	$18\div 2=$	$20\div 1=$

$1\times 2=$	$8\times 2=$	$5\times 3=$	$1\times 5=$
$2\times 2=$	$9\times 2=$	$6\times 3=$	$2\times 5=$
$3\times 2=$	$10\times 2=$	$1\times 4=$	$3\times 5=$
$4\times 2=$	$1\times 3=$	$2\times 4=$	$4\times 5=$
$5\times 2=$	$2\times 3=$	$3\times 4=$	$1\times 6=$
$6\times 2=$	$3\times 3=$	$4\times 4=$	$2\times 6=$
$7\times 2=$	$4\times 3=$	$5\times 4=$	$3\times 6=$

TO BE READ.

101	106	111	116	121	126	131	136	141	146
102	107	112	117	122	127	132	137	142	147
103	108	113	118	123	128	133	138	143	148
104	109	114	119	124	129	134	139	144	149
105	110	115	120	125	130	135	140	145	150

NOTE.—To be used as drill work in teaching the children to read and write numbers. 101, 125, etc., should be read one hundred one, one hundred twenty-five, etc. Do not permit the children to use the word *and* between the numbers.

Count by 4's to 100. Count by 5's to 100.

$\frac{1}{2}$ of 12 eggs is —— eggs.
$\frac{1}{4}$ of 4 cents is —— cent.
$\frac{1}{3}$ of 3 apples is —— apple.
$\frac{1}{2}$ of 12 pencils is —— pencils.
$\frac{1}{2}$ of 10 cents is —— cents.
$\frac{1}{2}$ of 16 books is —— books.
$\frac{1}{2}$ of 20 cents is —— cents.
$\frac{1}{3}$ of 12 eggs is —— eggs.
1 week has —— days.
2 weeks have —— days.
1 month has —— weeks.
1 year has —— months.
What number is one-half of 10?
—— is one-half of 10.
—— is one-third of 9.
—— is one-half of 12.
—— is one-half of 8.
—— is one-half of 14.
—— is one-half of 2.
—— is one-third of 6.
—— is one-fourth of 4.
—— is one-fourth of 8.
—— is one-third of 12.

NOTE.—Illustrate $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{3}$ by objects, etc.

PUT IN THE MISSING NUMBERS.

5 and ___ = 10	6 and ___ = 11
6 and ___ = 10	8 and ___ = 11
2 and ___ = 10	2 and ___ = 11
1 and ___ = 10	7 and ___ = 11
7 and ___ = 10	5 and ___ = 11
9 and ___ = 10	4 and ___ = 11
8 and ___ = 10	3 and ___ = 11
4 and ___ = 10	10 and ___ = 11
3 and ___ = 10	1 and ___ = 11

Add the numbers together that will make 5
" " " " " " " 6
" " " " " " " 7
" " " " " " " 8
" " " " " " " 9
" " " " " " " 12
" " " " " " " 13
" " " " " " " 14
" " " " " " " 15

10 + ___ = 15	14 + ___ = 15	11 + ___ = 16
7 + ___ = 15	12 + ___ = 15	13 + ___ = 16
8 + ___ = 15	1 + ___ = 15	8 + ___ = 16
2 + ___ = 15	6 + ___ = 15	3 + ___ = 16
5 + ___ = 15	1 + ___ = 16	15 + ___ = 16
4 + ___ = 15	3 + ___ = 16	4 + ___ = 16
3 + ___ = 15	5 + ___ = 16	14 + ___ = 16
9 + ___ = 15	2 + ___ = 16	6 + ___ = 16
13 + ___ = 15	7 + ___ = 16	10 + ___ = 16
11 + ___ = 15	9 + ___ = 16	10 + ___ = 20

LIQUID MEASURE.

GALLON. QUART. PINT. GILL.

4 gills (gi.) make 1 pint (pt.).
2 pints make 1 quart (qt.).
4 quarts make 1 gallon (gal.).

1. Find the gill measure; the pint; the quart; the gallon.
2. In 1 pint there are —— gills.
3. In 1 quart there are —— pints.
4. In 1 gallon there are —— quarts.
5. What things are sold by these measures?
6. Name all the things you can that are sold by the pint.
7. Name all the things you can that are sold by the quart.
8. Name all the things you can that are sold by the gallon.

NOTE.—The measures should be in the school-room, that the children may use them and become familiar with them. Each child should be required to use them.

SUBTRACT.

(Put in the missing numbers.)

8	9	9	8	10	10	10	7	6
—								
4	6	5	6	5	6	8	4	4
10	10	10	11	11	11	11	11	11
—								
2	1	4	7	9	10	2	5	3
12	12	12	12	12	12	12	12	12
—								
6	8	2	3	9	4	7	10	1
13	13	13	13	13	13	13	13	13
—								
7	8	2	1	4	6	9	5	12

ADD.

9	6	4	3	8	7	5	9	7
+ 9	6	5	4	8	3	6	6	8
3	7	7	8	9	5	2	5	6
+ 6	2	4	3	4	3	8	2	2
9	8	4	3	2	9	4	8	6
+ 7	6	7	8	9	5	6	7	7
10	7	8	9	7	6	11	12	7
+10	8	8	9	9	9	9	7	8

Subtract all the numbers you can from 4, 5, 6, and 7.

1. If John had 20 apples and gave half of them to George, how many would he have left?

2. Mary had 18 eggs and she sold 1 dozen; how many had she left?

3. Nat had 10 cents and his papa gave him 10 more; how much had he then?

4. Nell had 3 yards of ribbon and she bought 10 more; how many did she then have?

5. Tom had 4 pencils and he gave $\frac{1}{4}$ of them to Fred; how many had he left?

6. Grace had 9 paper dolls and she gave $\frac{1}{3}$ of them to May; how many had she left?

7. Ann bought 2 pints of milk, and she paid 2 cents a pint for it; what did it cost her?

8. Frank had 1 quart of milk, and he sold it for 2 cents a pint; what did he get for it?

9. May bought 3 yards of ribbon, and she paid 5 cents a yard for it; what did it cost her?

10. A boy had 2 dozen eggs, and he sold them for 10 cents a dozen; how much did he get for them?

Count by 3's to 51. Count by 6's to 30.

$\frac{1}{2}$ of 4 =	4 ÷ 2 =	4 × 2 =	2 × 2 =
$\frac{1}{3}$ of 6 =	6 ÷ 3 =	2 × 3 =	4 × 4 =
$\frac{1}{2}$ of 8 =	8 ÷ 2 =	4 × 2 =	3 × 3 =
$\frac{1}{2}$ of 10 =	10 ÷ 2 =	2 × 5 =	8 × 2 =
$\frac{1}{3}$ of 9 =	9 ÷ 3 =	3 × 3 =	2 × 9 =

16 ÷ 2 =	8 + ___ = 16	20 ÷ 2 =	$\frac{1}{2}$ of 12 =
15 ÷ 3 =	9 ÷ ___ = 3	20 ÷ 5 =	$\frac{1}{3}$ of 3 =
16 ÷ 8 =	6 ÷ ___ = 2	14 ÷ 2 =	$\frac{1}{4}$ of 12 =
15 ÷ 5 =	4 ÷ ___ = 2	20 ÷ 4 =	$\frac{1}{2}$ of 14 =
18 ÷ 9 =	7 + ___ = 10	14 ÷ 7 =	$\frac{1}{3}$ of 15 =
18 ÷ 2 =	8 + ___ = 19	12 ÷ 3 =	$\frac{1}{2}$ of 16 =
20 ÷ 10 =	9 + ___ = 17	12 ÷ 4 =	$\frac{1}{2}$ of 20 =

8 + 9 =	7 + 3 =	10 + 10 =	6 + 8 =
9 + 7 =	6 + 9 =	12 + 7 =	7 + 7 =
6 + 8 =	7 + 8 =	11 + 8 =	8 + 8 =
9 + 4 =	9 + 5 =	9 + 7 =	6 + 6 =
7 + 6 =	5 + 3 =	13 + 4 =	9 + 9 =
6 + 9 =	4 + 5 =	14 + 5 =	10 + 10 =
8 + 8 =	9 + 2 =	15 + 4 =	5 + 5 =
9 + 9 =	8 + 5 =	9 + 9 =	4 + 4 =
7 + 7 =	9 + 7 =	7 + 8 =	6 + 9 =
4 + 8 =	6 + 8 =	16 + 3 =	9 + 7 =

ADD.

9	7	10	2	6	5	7	8	9
+ 6	9	10	9	5	9	9	7	8

1. What number is twice 5?
2. What number is $\frac{1}{2}$ of 20?
3. 5 is one-half of ——.
4. How many legs have 4 chairs?
5. 10 is one-half of ——.
6. 9 is one-half of ——.
7. How many eggs must you put with a dozen to make 14?
8. How many legs have 2 spiders?
9. 3 is one-third of ——.
10. 2 is one-fourth of ——.
11. How many feet in 2 yards?
12. —— days make 1 week.
13. How many weeks in 14 days?
14. How many weeks in 1 month?
15. At 5 cents a piece, what will 3 books cost?
16. 1 wagon has —— wheels.
17. How many wheels have 3 wagons?
18. $\frac{1}{3}$ of a foot is how many inches?
19. $\frac{1}{3}$ of a yard is how many feet?
20. One-half of a quart is how many pints?
21. One-half of a gallon is how many quarts?
22. One-half of a dozen pins is how many?

In 9 there are —— fours and —— over.
In 10 there are —— fours and —— over.
In 10 there are —— threes and —— over.
In 7 there are —— twos and —— over.
In 5 there are —— twos and —— over.
In 11 there are —— threes and —— over.
In 11 there are —— fives and —— over.
In 11 there are —— fours and —— over.
In 13 there are —— sixes and —— over.
In 13 there are —— twos and —— over.
In 13 there are —— threes and —— over.
In 13 there are —— fours and —— over.
In 13 there are —— fives and —— over.

SUBTRACT.

(Put in the missing numbers.)

14	14	14	14	13	14	14	14	14
—								
7	3	5	6	7	8	10	11	2
15	15	15	15	15	15	15	15	15
—								
10	3	6	9	4	7	8	1	12

ADD.

(Put in the missing numbers.)

10	12	9	7	3	4	5	6	8
+								
20	17	20	16	18	17	14	15	16

PUT IN THE MISSING NUMBERS.

16 + ___ = 17	14 + ___ = 17	10 + ___ = 18
2 + ___ = 17	13 + ___ = 17	4 + ___ = 18
1 + ___ = 17	15 + ___ = 17	12 + ___ = 18
4 + ___ = 17	3 + ___ = 17	11 + ___ = 18
6 + ___ = 17	1 + ___ = 18	14 + ___ = 18
8 + ___ = 17	3 + ___ = 18	13 + ___ = 18
5 + ___ = 17	5 + ___ = 18	15 + ___ = 18
7 + ___ = 17	2 + ___ = 18	17 + ___ = 18
10 + ___ = 17	6 + ___ = 18	16 + ___ = 18
12 + ___ = 17	8 + ___ = 18	4 + ___ = 9
9 + ___ = 17	7 + ___ = 18	2 + ___ = 9
11 + ___ = 17	9 + ___ = 18	5 + ___ = 9

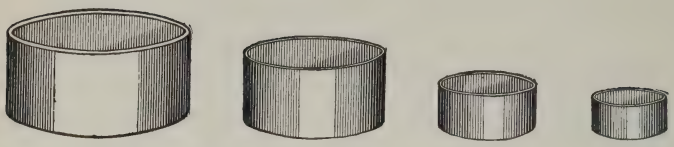
2 in 8 ___ times.
3 in 6 ___ times.
2 in 10 ___ times.

$\frac{1}{2}$ of 12 pencils is ___ pencils.
$\frac{1}{4}$ of 8 marbles is ___ marbles.
$\frac{1}{3}$ of 9 eggs is ___ eggs.

9 hats are ___ more than 5 hats.
7 cups are ___ more than 4 cups.
8 fans are ___ more than 6 fans.
9 dolls are ___ more than 3 dolls.
10 tops are ___ more than 5 tops.

Subtract all the numbers you can from 8, 9, 10, 11, 12, 13, 14, and 15.

DRY MEASURE.



BUSHEL. HALF-BUSHEL. PECK. QUART.

2 pints (pt.) make 1 quart (qt.).
8 quarts make 1 peck (pk.).
4 pecks make 1 bushel. (bu.).

1. What is measured by the quart?
2. What is measured by the peck?
3. What is measured by the bushel?
4. Name all the things you can that are sold by the quart.
5. Name all the things you can that are sold by the peck.
6. Name all the things you can that are sold by the bushel.
7. In 1 peck there are —— quarts.
8. In 1 bushel there are —— pecks.
9. In 1 quart there are —— pints.
10. In $\frac{1}{2}$ peck there are —— quarts.
11. In $\frac{1}{2}$ bushel there are —— pecks.
12. In $\frac{1}{2}$ quart there is —— pint.

NOTE.—Secure the measures for this lesson, if possible.

$\frac{1}{2}$ of 18 =	$4 \times 5 =$	$4 \div 2 =$	$12 \div 6 =$
$\frac{1}{3}$ of 12 =	$6 \times 2 =$	$6 \div 3 =$	$14 \div 2 =$
$\frac{1}{2}$ of 16 =	$2 \times 7 =$	$8 \div 4 =$	$18 \div 6 =$
$\frac{1}{4}$ of 12 =	$5 \times 2 =$	$9 \div 3 =$	$20 \div 5 =$
$\frac{1}{2}$ of 14 =	$8 \times 2 =$	$8 \div 2 =$	$18 \div 3 =$
$\frac{1}{2}$ of 10 =	$2 \times 9 =$	$10 \div 5 =$	$20 \div 2 =$
$\frac{1}{3}$ of 9 =	$5 \times 3 =$	$12 \div 4 =$	$18 \div 9 =$
$\frac{1}{4}$ of 8 =	$4 \times 4 =$	$14 \div 7 =$	$20 \div 4 =$

ADD.

7	1	5	6	1	9	4	3	2
3	2	5	3	8	2	4	3	3
2	8	2	1	2	3	4	3	5
5	4	2	5	3	2	4	3	5
+2	3	4	5	2	4	4	3	5

MULTIPLY.

9	10	7	4	6	5	8	6	3
× 2	2	2	3	2	3	2	3	3
3	4	2	3	5	1	1	9	20
× 2	4	4	4	4	3	8	1	1

Subtract all the numbers you can from 16, 17, 18, 19, and 20.

Add all the numbers together that will make 15, 16, 17, 18, 19, and 20.

1. ½ of a foot is —— inches.
2. ½ of a yard is —— inches.
3. ½ of a pint is —— gills.
4. ½ of a quart is —— pints.
5. ½ of a gallon is —— quarts.
6. ½ of a peck is —— quarts.
7. ½ of a bushel is —— pecks.
8. If 1 yard of ribbon costs 3 cents, what will 3 yards cost?
9. Two tops at 5 cents apiece will cost —— cents.
10. If 1 pint of milk costs 4 cents, what will 1 quart cost?
11. Three pints of milk at 3 cents a pint will cost —— cents.
12. Two yards of ribbon at 10 cents a yard will cost —— cents.
13. Four yards of calico at 5 cents a yard will cost —— cents.
14. Two pecks of potatoes at 10 cents a peck will cost —— cents.
15. One-half of a dollar is —— ——.
16. Two bushels of corn at 25 cents a bu. will cost —— cents.

NOTE.—Read numbers from blackboard to 150.

PUT IN THE MISSING NUMBERS.

18 + ___ = 19	7 + ___ = 19	2 + ___ = 20
2 + ___ = 19	15 + ___ = 19	17 + ___ = 20
4 + ___ = 19	10 + ___ = 19	4 + ___ = 20
15 + ___ = 19	1 + ___ = 19	18 + ___ = 20
17 + ___ = 19	17 + ___ = 19	11 + ___ = 20
3 + ___ = 19	11 + ___ = 19	19 + ___ = 20
8 + ___ = 19	5 + ___ = 20	6 + ___ = 20
16 + ___ = 19	1 + ___ = 20	10 + ___ = 20
10 + ___ = 19	12 + ___ = 20	7 + ___ = 20
6 + ___ = 19	14 + ___ = 20	13 + ___ = 20
9 + ___ = 19	3 + ___ = 20	8 + ___ = 20
5 + ___ = 19	16 + ___ = 20	15 + ___ = 20

Count to 100.
Count by 3's to 51.
Count by 5's to 100.
Count by 2's to 100.
Count by 4's to 60.
Count by 6's to 48.

20 ÷ 5 =	12 ÷ 4 =	20 ÷ 2 =	10 × 2 =
12 ÷ 6 =	9 ÷ 3 =	20 ÷ 10 =	9 × 2 =
15 ÷ 5 =	18 ÷ 3 =	18 ÷ 2 =	3 × 3 =
18 ÷ 6 =	20 ÷ 4 =	14 ÷ 2 =	2 × 10 =
14 ÷ 7 =	18 ÷ 9 =	5 × 4 =	4 × 5 =
15 ÷ 3 =	15 ÷ 5 =	8 × 2 =	2 × 7 =
16 ÷ 2 =	16 ÷ 8 =	4 × 3 =	6 × 3 =
12 ÷ 3 =	12 ÷ 2 =	3 × 6 =	2 × 9 =
20 ÷ 2 =	18 ÷ 6 =	2 × 9 =	8 × 2 =
20 ÷ 10 =	16 ÷ 4 =	3 × 5 =	5 × 4 =
20 ÷ 4 =	14 ÷ 14 =	4 × 4 =	3 × 6 =

Google

1. John earned 10 cents; how much more must he earn before he will have 18 cents?

2. How many eggs must I put with a dozen to make 20?

3. Fred had a dozen and a half of eggs and he sold 1 dozen; how many had he left?

4. At 10 cents a pint, what will 2 pints of cream cost?

5. A boy worked every week-day for 2 weeks at 1 dollar a day; how many dollars did he earn?

6. **There are 2 weeks in —— days.**

7. 4 slates at 5 cents apiece will cost —— cents.

8. 6 oranges at 3 cents apiece will cost —— cents.

9. 2 sleds at 2 dollars apiece will cost —— dollars.

10. Frank had 18 cents, and George $\frac{1}{3}$ as many; how many cents had George?

11. Nell can buy —— two-cent postage stamps for 20 cents.

12. Ann can buy —— pencils, at 2 cents apiece, for 14 cents.

NOTE.—The teacher should supply as much more work as the children can take.

Google

53	14	
57	15	
61	16	
65	17	18
69	18	20
73	19	21
77	20	~~21~~
81	21	24
85	22	25
89	23	27
93	24	28
97		30
101		32
105		35
109		36
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